The Builder.

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"Père La Chaise."

In the year 1347 a wealthy grocer of Paris, it is recorded, as most readers know, one Regnault, built for himself a magnificent private residence, which he named La Folie Regnault. When this grocer died, his heirs sold the place to a devout lady who presented it to a convent of Jesuits. Louis XIV., in 1705 appointed as superior of the convent Père La Chaise, his confessor, to whom the monarch was much attached. The Père was a subtle and powerful man, and Mont Louis, as the convent was now called, became the favourite haunt of courtiers,—the focus of ambition, luxury, and intrigue,—the centre of Jesuitical power in France. On the suppression of the order, about sixty years afterwards, the mansion and grounds were sold to pay debts, and in 1800 they were purchased for 160,000 francs by the municipality of Paris to afford a site upon which to form their first cemetery. Such was the origin of the renowned Père La Chaise, which, as every visitor to Paris knows, occupies the slope of a hill on the north-east of the capital, beyond the Boulevard de la Bastille. Originally the grounds extended to forty acres, and the work of laying them out was entrusted to M. Brogniart, who now sleeps at the foot of one of the cypress trees which he planted. The cemetery was consecrated in 1804, and, on the 21st of May the same year, the first grave was opened. But, not long after, Père La Chaise was turned into a fortress. This was in 1814, while the armies of the allies were approaching Paris. Formidable barriers were erected in the cemetery, which, from its elevated position, commands the plain extending to Vincennes. The walls were pierced with loopholes, and the pupils of the Veterinary School of Alfort occupied it on the 30th of March, and successfully resisted two attacks of the Russian troops detached by General Barclay de Tolly. On the third day, however, the Russians succeeded, and made themselves masters of the cemetery. Paris capitulated the same evening, and here the Russians bivouacked. The worst use which they seem to have made of the place was to cut down a great many of the trees for fuel. Next year, on the second visit of the allies, the interments were again temporarily suspended. The work was once more resumed. To render access easy to different points, winding paths were formed, a wide paved road was opened to the ancient mansion of Père La Chaise, and the grounds were planted with shrubs, cypresses, and weeping willows. The mansion itself was demolished in 1822, and it was intended to erect on its site a colossal pyramid, the base of which was to serve as a chapel for the performance of the burial service. But this part of the design was abandoned. The neat chapel, which stands in the middle of the cemetery, was erected instead. The present extent of the cemetery is 212 acres, and nearly 5,000,000*l.* have been expended on it. Since the first grave was made, it is estimated that the remains of more than 200,000 persons have been interred here. The number of tombs amounts to about 16,000, of these upwards of 3,000 have monuments. There are three descriptions of graves. Those for the poor (*fosses communes*) are situated in the northern part of the ground. They are 4½ ft. deep. The dead are gratuitously buried in coffins placed close to each other, without any intervening space, but not upon each other. These trenches are reopened every five years, that term being sufficient for the decomposition of the bodies in this soil, which is very clayey. Then there are the temporary graves. These are held for ten years upon the payment of a certain sum, but are revertible at the end of that period, notwithstanding that monuments may have been erected over them. The remainder of the graves are perpetual; that is to say, they are acquired by the purchase of the ground, and families have the right to sink vaults and to raise monuments at pleasure. At the extreme end of Père La Chaise stands a Moorish mosque, designed by Vely Pasha, Turkish ambassador, for the use of Mussulmans. The Queen and a prince of Oude are interred here. On the right, near the entrance of the cemetery, is situated the Jews' burying-ground. There lies Rachel, the celebrated *tragédienne*. The rest of the extensive tract of ground is devoted to the interment of persons without distinction of rank or religion. The monuments in this great necropolis are of every architectural character and design. Here we see elegant temples and chapels, solemn vaults, and massive pyramids; there tall obelisks, graceful columns, and altars, and urns of diversified forms. No other public cemetery contains the dust of so many celebrated men and distinguished women as Père La Chaise. Bunhill Fields, the "Campo Santo" of Dissenters, is interesting, since in it rest glorious John Bunyan, and Daniel De Foe, John Owen, George Fox, and Isaac Watts. The Edinburgh cemeteries are famous. In the Dean lie Francis Jeffrey, with David Scott, the greatest Scottish painter of his time, and "Christopher North." Dr. Chalmers and Hugh Miller sleep in that pleasant garden the Grange, and Greyfriars Kirkyard is the resting-place of George Buchanan and Allan Ramsay, and all that brave army of martyrs—the old Scottish Covenanters. In Montmartre, Paris, are the graves of Henri Heine, the German poet; of Pigalle, the sculptor; and of General Cavaignac. The remains of the patriot Manin were recently removed hence and conveyed home by his loving countrymen. In the Cimetière du Nord lie Paul Delaroche, and his wife, the daughter of Horace Vernet; but Père la Chaise can show a longer glory roll than any of these; it possesses an interest greater even than Kensal Green,—last home though it be of Thackeray, Thomas Hood, Leigh Hunt, Sydney Smith, Allan Cunningham, Mackworth Praed, Douglas Jerrold, John Leech, and other bright spirits who have gone, leaving the world better than they found it.

Let us glance at a few of the great ones whose names are recorded and whose praises are sung in the favourite and most famous of French burial-places. In point of general interest the names of Abelard and Heloïse must head the list. The story of the unfortunate lovers, as told by Pope, is a fascinating piece of biography, and it is hardly any wonder that their tomb should be the first to attract the visitor to Père La Chaise. A brief description of their remarkable memorial may be not uninteresting. It consists of a rectangular chapel, in the thirteenth century Gothic style, formed by M. Lenoir out of the ruins of the celebrated abbey of the Paraclete, founded by Abelard, and of which Heloïse was the first abbess. It is 14 ft. in length, 11 ft. in breadth, and 24 ft. high. An open-work crocketed pinnacle, 12 ft. high, rose out of the cruciform roof, and four smaller pinnacles terminated the gables, but owing to their ruinous state these were some time ago removed. Fourteen columns, each 6 ft. in height, with foliaged capitals, support trifoliate arches with open spandrels surmounted by cornices wrought in flowers. The four pediments are pierced with trifoliate windows, and decorated with bas-reliefs, roses, and medallions of Abelard and Heloïse. The principal one presents two busts, and a bas-relief in three compartments. In the centre is Mount Calvary; on the left Abelard, in his monastic habit; and on the right an angel holds in his arms the soul of the lover. The opposite one is adorned with two roses, and a bas-relief representing Abelard's funeral. The two lateral pediments are ornamented with roses of beautiful workmanship. Inside the chapel is the tomb built for Abelard by Pierre le Vénérable, at the Priory of St. Marcel. He is represented in a recumbent posture, the head slightly inclined and the hands joined. By his side is the statue of Heloïse. The bas-reliefs round this sarcophagus represent the fathers of the church. An inscription on one side of the tomb runs as follows:—

"Hic
Sub eodem marmore jacent
Hujus monasterii
Conditor Petrus Abælardus,
Et Abbatissa Heloissa,
Olim studiis, ingenio, amore, infaustis nuptiis
Et pœnitentiâ,
Nunc æternâ, quod speramus, felicitate
conjuncti.
Petrus Abælardus obiit xx. primâ Aprilis, M.C.XLII.
Heloissa xvii. Mai, M.C.XLIII.
Curis Carolæ de Roucy Paracleti Abbatissæ
M.D.CC.LXXIX."

A second inscription refers to the retractation of errors regarding the doctrine of the Trinity, attributed to Abelard. At the angles of the monument are four short inscriptions, stating its origin, its removal, and erection in the Musée des Monuments Français, whence it was transported to Père La Chaise. The complete restoration of this interesting relic is now being effected. A plain tomb of large dimensions, surrounded by palisades, bears the name of him who has been called the French Virgil,—Jacques Delille. Near to it is an altar to the memory of the eminent composer, Gréty. Not far off lies Marie-Antoinette-Josephine Raucourt, who died on the 15th day of January, 1815. The opposition of the priests to the interment of this celebrated actress in consecrated ground was carried to such a pitch that it had well-nigh created a popular tumult. In a plain tomb sleeps Madame Cottin, the author of the ever-popular narrative, "Elizabeth, or the Exiles of Siberia." A lofty pyramid, on one side of which is a bas-relief bearing his portrait and name, and the date of his death, commemorates Marshal Massena; and close by are deposited the remains of his friend and companion in arms, Marshal Lefebvre, under a sarcophagus of white marble, with his bust. A large number of French soldiers of distinction rest here. We find the names of Marshals Kellerman, Grouchy, Berthier, and Suchet; Generals Gobert, St. Cyr, and Foy, the idol of the French people. Foy's monument consists of a splendid sepulchre surmounted by a temple containing a marble statue of the general in Roman costume. It is the work of David, and was erected by national subscription. Here also is the grave of the unfortunate Marshal Ney, who, upon Bonaparte's return from Elba, swerved from his allegiance to the king, was condemned to death on the 6th of December, 1815, and shot at nine o'clock on the following morning. This monument was removed soon after its erection, in consequence of the numerous pencil inscriptions written upon it, which were renewed as soon as effaced. The

spot is now laid out as a small garden, enclosed by an iron railing. Among the most imposing memorials is a statue erected by public subscription to Casimer Périer, the Prime Minister, who died of cholera, 1832. A still more costly mausoleum has been raised to Countess Demidoff Ten Doric columns of white marble support an entablature, under which is a sarcophagus, accessible by a double-branched flight of stairs, the whole resting on a vast basement of sculptured masonry. The tomb of Count Lavalette is ornamented with a bas-relief, representing his escape from prison. There is a neat cenotaph to David the painter, and a massive bust of bronze is the "In Memoriam" of Balzac. Near to the distinguished novelist rest Delavigne the poet, and Judith Frère, the original of Beranger's Lisette. The grave of the great song-writer himself, he who has been called the Burns of France, is some little distance to the right. His dust mingles with that of Manuel, the patriotic statesman of 1832. One monument serves to commemorate both. Molière and La Fontaine also lie side by side within one enclosure. Their remains were transferred to Père La Chaise in 1804. Racine, another genius, and the friend of these friends, sleeps not far off. Pradier and Dantan, the sculptors, are here, with David d'Angers, whose chisel supplied so many of the finest memorials in the cemetery, is himself commemorated by a tomb of the simplest kind. A little way beyond the gate, and to the left of it, we come upon the name of Alfred de Musset. In obedience to his wish, a weeping willow droops over the head of this lamented poet. Next to him lies Visconti, the architect of the new Louvre. A reclining statue, in white marble, finely executed, forms his tomb. Interesting also is the grave of the Marquis de Clermont-Gallerande, who, on the memorable 10th of August, 1792, placed himself between Louis XVI. and the mob to defend his sovereign. But a record of all the famous personages gathered to their fathers in Père La Chaise, would fill many pages. Besides those we have mentioned, the visitor will find scores of others, some of them the greatest ornaments of their age. Among mathematicians and philosophers, he will find Arago, Cuvier, Poinsot, Delambre, Geoffroy St. Hilaire, and Laromiguière; Laplace the astronomer; Lavoisier, Fourcroy, and Gay-Lussac, chemists; and Dupuytren and Baron Larrey, surgeons (the latter esteemed by Napoleon as the honestest man he ever knew); Bruat, and the Duke Decrès, naval commanders; Bellini, Rubini, and Weber, the composers; Beaumarchais and Scribe, dramatic writers, with Martain, the Spanish dramatist; Duchesnois, the tragic actress and Talma; Lebrun the poet, Dacier the critic, Madame de Genlis, Angodo the financier, Lafitte the banker, and Fourier the Socialist, in the company of Volney of "Ruins of Empires" notoriety. Garnier-Pages is here, with Benjamin Constant, the benevolent Abbé Sicard, Lalande, Souvestre, Junot, Davoust, Turgot, Winser (who introduced gaslighting into London and Paris), and the Duke de Morny, the faithful friend and servant of the present ruler of France. Of the more recently-erected tombs Morny's is by far the most conspicuous and elegant. In Père La Chaise repose the ashes of a few English notables. Here are the names of Sir Sydney Smith, the admiral; General Macdonald; Mr. Ricardo, the writer on finance; the Earl of Stair; Lord Cochrane; Patrick Keene, who was assassinated on the Boulevard des Italiens in 1815; Philip Astley, of the Amphitheatre; also those of Mrs. Fitzherbert, and Mrs. Jordan. Strange, by the way, that the favourites of two English kings, brothers and immediate successors, should find a grave in the same spot, and in a foreign country!

In some respects Père La Chaise is unlike every other public cemetery. It bears but a slight resemblance to the humble and retired Scottish kirkyard, with its narrow footpaths leading to the "place of worship" in the centre, and the plain, modest headstones, with their matter-of-fact inscriptions, scattered over its green sward. Of much greater extent, Père La Chaise is not so tastefully laid out or so carefully kept as the Highgate or Kensal Green, as the Dean Cemetery of Edinburgh, or the Glasgow Necropolis. These are beautiful gardens, where you scarce can see the graves for flowers. In the Parisian cemetery you see very few

"Marigolds on death-beds blowing."

Looking at the reputation of the French in matters of taste and design, the place does not fulfil the expectations formed of it. There is little uniformity or regularity in the plan of the cemetery. Thickly-planted trees overhang the principal pathways, making them very gloomy and nearly always damp. In autumn, the walks are literally covered with dead leaves, which it takes much time and labour to clear away. Then the poor quarter of the cemetery detracts greatly from its picturesque appearance. The graves here cover a large space; they are placed close together, each grave being partitioned off by a tiny railing of wood, painted black. Hundreds of small black wooden crosses, with wreaths of flowers and *immortelles*, themselves fast crumbling into dust, are deposited on these graves, and the whole of this valley of dry bones is overrun and choked with ferns and long grass. Altogether this place is dismal and the sight sad. The custom the French have, in common with all Roman Catholic populations, of decorating the graves of departed friends with stucco statuettes of the Virgin, painted portraits of saints, wax candles, crosses, rosaries, glass cases of artificial flowers, and other mementoes of affection, is here indulged in to excess. The custom, it need hardly be said, little accords with English notions. But what spoils the beauty, as it disturbs the solitude of Père La Chaise, more than anything else, is the manufacture of monuments continually being carried on within its gates. At the time of our last visit bricklayers were everywhere busy building vaults, and stone-cutters hewing cenotaphs. One-half of the cemetery presented the appearance of an extensive statuary establishment in full operation. These workmen were erecting the perpetual class of tombs already alluded to, and the work will go on from year to year until the ground is completely occupied with graves. Owing to its great extent, the number of interments that take place in Père La Chaise is very large—from two to three thousand a year, we believe. But of course the number varies. You may see at the same moment half a dozen funeral processions winding their dolorous way up the wooded slopes of this "golgotha." And these mournful errands continue to be made all day long. All day long, too, you meet a tide of mourners and visitors entering and leaving this city of the dead. Yes, Père La Chaise is a city—a vast, ever-increasing city—the metropolis of departed Parisians, whose present population numbers upwards of 200,000, men, women, and children, who have quitted the busy world outside, and, in the significant language of the old Roman, have "gone over to the majority."

LIVERPOOL LABOURERS' DWELLINGS.

More than a year ago the Corporation of Liverpool offered a premium for the best plans for a block of dwellings which they proposed to erect on a site, purchased by them for the purpose, adjoining Vauxhall-road, one of the main thoroughfares to the north end of the town, parallel to the line of docks, and which traverses, perhaps, the most thickly populated of the poorer districts of Liverpool. The premium was to be awarded to the plan which should afford "at the lowest cost (having regard both to expense of building and quantity of land occupied) the greatest number of healthy and convenient dwellings, substantially built, and suitable to the wants of the labouring classes." As usual in such cases, a number of designs were sent in having no reference to the conditions to be attained; designs accompanied by alarming perspective views giving to the proposed block of humble dwellings the aspect of a lordly mansion, or a group of substantial dwelling-houses for the comfortable middle-classes; and further recommended by imaginary balance-sheets, fearfully and wonderfully made out, giving promise of returns of 7, 8, and even up to 10 per cent.; computed available rentals being matters easily manipulated—on paper. The council, shutting their eyes to these golden prospects, gave the first premium to a modest and carefully-planned set of drawings by Mr. J. E. Reeve, which appeared best to fulfil the joint conditions of salubrity and moderate cost; but having reserved the power of employing any other competitor, they ultimately entrusted the work to Messrs. Redman & Hesketh, whose plans, on further investigation, appeared likely to yield larger accommodation and consequent return for the sum to be expended. These buildings, which are now nearly ready for occupation, are arranged in three rows longitudinally on the site which is an oblong parallelogram of about two to one; the whole being again divided transversely by an asphalted road, 30 ft. wide, which runs across the centre of the site and opens into the two streets, Sylvester-street and Ashfield-street, which bound the site on the south and north sides respectively. The two longitudinal roads, between the centre and side blocks of dwellings, are 25 ft. wide, and the entire aggregation of dwellings is thus partitioned into six blocks, four outer ones of five stories, and two inner ones of three stories in height. The only objection to the general plan is that, as the ends of the site are bounded by existing buildings, each of the longitudinal courts of course forms a *cul-de-sac*, closed by a high wall at one end, which must materially interfere with light and thorough ventilation, besides possibly lowering the rental value of the houses near the upper ends. Among the plans originally exhibited in competition, several other ways of arranging the buildings were shown; and there can be little doubt that the plan which found favour with several competitors, of placing the blocks of dwellings transversely across the site from Sylvester-street to Ashfield-street, so as to have a succession of clear openings from side to side, would have been preferable in a sanitary point of view. The present arrangement was selected as affording space for a greater number of dwellings than any other; and as the number of applications for tenancy is said to have been already more than double the number of houses (which are 146 in all), we must refrain from quarrelling with a plan which provides what there is evidently such a very great demand for, especially remembering that this is to be looked upon only as an experiment before entering upon future undertakings of the same nature. In detail, there is much to commend in the planning, which is very compact, and loses as little as possible of available space. The houses are in three classes; with three, two, and one bed-room respectively, in addition to kitchen and scullery. Access is given to the different stories, at the requisite intervals, by staircases of Yorkshire stone, with landings of the same carried on iron bearers; the landings at one side of the building being open to the air, and the alternate landings at the other side affording space for two water-closets on each, with Guest & Chrimes's apparatus. From the outer landings a door opens on each side, giving access to a set of rooms complete in itself, so that each tenement has its own outer door opening on to the staircase, and each has its own water-closet, a few steps up on the next landing. Between the two water-closets an ash-shaft descends, with an iron door on each floor, for discharging the ashes into the ashpit in the basement. Each room is fitted with gas, and a meter is placed in the basement for each staircase. We should have liked to see the watercloset a little less prominently and publicly placed; the seat is opposite the door, which opens directly opposite the street entrance on the lower floors. Of course it may be said that the class for whom such houses are built have not the same fastidiousness about such matters as is found among what are called the "upper classes;" but as one of the ends of improved dwellings is to raise their occupants, the more the latter are encouraged towards that refinement of habits which forms so large an element in civilization, the better for them. Another slight defect in the plan is the darkness at the bottom of the stairs leading to the basement dwellings, which might have been lessened by a glass riser in one or two of the steps above. The work in general has been very well executed by the contractor, Mr. Hugh Yates, of Liverpool.

The rental of the houses will be from 6s. to 3s. per week, the latter amount being only for the smaller houses in the interior blocks. These are about the current rents of house property of the same class in the neighbourhood, and upon this scale it is expected that nearly 5½ per cent. will be realized. This will not be considered a very paying speculation, yet even this has not been attained save by rejecting what would probably have been a better sanitary plan, and by putting more houses on the site than it will well bear, considering the proportion of open ground to ground built on. The interior streets or courts will be little less close and crowded than some of those in the neighbourhood; and as no special provision could be made for a washhouse or drying ground, these courts will, at weekly periods, doubtless be crowded with clothes hung out to dry, than which there is surely not a more comfortless sight to be seen between two rows of dwellings. Is not "washing-day"

proverbial among the lower classes as a day of discomfort? And if anything like pleasantness and attractiveness is to be given to the aspect of our town homes of this class, we opine that a separate place set apart for washing and drying will be a *sine qud non* towards that end. In some houses of this kind built a good many years ago towards the south of Liverpool, drying-rooms were provided in the roof, as an attic, but it was found that the tenants would not take the trouble of carrying a large bundle of clothes so far upstairs. These same houses did not pay 5 per cent., if we remember rightly, nor anything like it; and possibly the addition of such a room, even in a more accessible position and with a slight charge for the use of it, would suffice to reduce the return below that moderate per-centage. But the result of this Labourers' Dwellings Competition in Liverpool goes far to convince us that those who undertake to provide for the labouring population in our towns, dwellings where life may be in some degree an enjoyment, and not a mere fact of existence, must be content for the present to mix a little philanthropy with their per-centage calculations. Political economy is a great science, but it does not abrogate the claims of humanity. When we consider the great amount of so-called wealth which is at present turned over amongst the richest classes, in a perfectly unproductive manner, from hand to hand; and when we contemplate, on the other hand, the masses of population who, in such districts as that between Scotland-road and Vauxhall-road in Liverpool, are living crowded together in ill-ventilated and ill-drained houses looking out upon dirty alleys which are the receptacles of perennial filth and refuse—districts in which even such a large block of new building as we have been alluding to seems like a drop in a bucket—it becomes evident that to make any tangible improvement in this state of things we must not wait too warily for large per-centages. Money laid out, even with but a small per-centage return, upon such an object as this, will in the end repay the community, inasmuch as it will give a chance to the lower classes to live like men and not like animals, and to be more helpful to the general good. It is to be hoped that the Corporation of Liverpool, having made on the whole a fair first experiment, will not stop in so desirable a work.

THE PROPOSED SICK ASYLUM FOR NEWINGTON.

THE architects who have submitted designs for this asylum are Messrs. Berriman & Son, Messrs. Giles & Biven, Messrs. Jarvis & Son, Mr. Knightley, and Mr. Lepard. Mr. Burton was also invited, we believe, but did not send in drawings.

In the previous competitions of this kind, the names of the architects were affixed to their drawings; but in the present case they are not so, the drawings being simply identified by mottoes,—a delusion and a snare! We cannot applaud the change. The estimates of cost, as this list shows, differ enormously:—

"Junius"	£33,500
"What is worth doing at all is worth doing well"	33,600
"*Experientia*"	34,500
"*L'Espérance*"	51,000
"*Expectans*"	68,000

The competitors have all set forth their designs very creditably, one of them sending no fewer than a dozen drawings, to show alternative designs. The last on the list, "*Expectans*," has made the mistake of "well" lighting and ventilating his administrative block, which means ill lighting and ventilating; building round an internal area. This, and the general crowding of the buildings, will make his chance small. The plan by "*L'Espérance*," too, clever as it is in some respects, will not compare satisfactorily with the first three on our list, and from these we have little doubt the selection must be made. In general arrangement of the blocks these resemble each other very much at first sight, but this resemblance is lessened on looking at the appropriation of the several portions, and comparing distances. Stock bricks, with a few red bands, are the materials chiefly adopted, and all have three stories in height. We had made a list of objections to each, with the view of comparing; but we prefer to use them as simply showing how carefully the designs should be examined before the decision be arrived at. "Junius," with a capital plan in many respects, risks success by not making his "Foul Wards" a detached building, as requested, capable of supervision by one nurse. The ward which is divided into three seems to want Nurses' rooms. The mode of getting over the difference in levels needs explanation. As a means of escape from fire, the author gives his corridors terrace-tops. The design of "*Experientia*," which seems very complete and well considered, has an advantage over the latter in setting the administrative block forward, before the wards; and over "What is worth doing," &c., in the position of the foul wards building, which could by the plan of *Experientia* be served by the same administration. This could scarcely be the case in "What is worth doing." In this latter, too, the wards come very close to the railway, and the administration block to the proposed new street. The value of a double corridor to the administration, which renders supervision difficult, seems questionable; and we are not certain, looking from the same point of view, if a staircase at the end of the wards is desirable. However, all we wish to show by these observations, in the interest of the competitors generally, is the necessity for the most careful examination and comparison of relative advantages and demerits.

A NEW EXPERIMENT FOR THE POOR.

DURING the course of last year, while writing on the nature of the risks to which human life is subjected, we promised to discuss on a future occasion the principles of a new society which had then but recently started in Edinburgh for the purpose of improving the condition of the poorer classes. We have not been able to overtake the subject sooner; and indeed it is always well to postpone treating of any institution in the northern capital as a thing accomplished. For even in the present case an unquestionably benevolent and disinterested movement seems likely to turn out a failure, owing, as it would seem, to the strong and determined opposition of the local authorities. They may or may not be right. Our readers, however, may judge for themselves. There are circumstances connected with this experiment, as we must still term it, which are, at all events, worthy of the consideration of those who are interested in the progress of society.

In that valuable part of the "De Augmentis," where Bacon touches upon moral science, he lays particular stress upon that principle which he calls the *bonum communionis*, or social good, considered as a source of happiness to the state or to the individual who pursues it; and he shows by a reference to various systems of antiquity that in this neglect lay their radical deficiency. For those systems placed happiness in the *bonum suitatis* alone, or in that principle of which self is the only direct and ultimate object. We need not illustrate Bacon's philosophy by a reference to the celebrated Poor Laws of Elizabeth. But it is clear that Bacon considered that the "social good" could only be ameliorated, and, if possible, improved, under the direct and positive control of the state. In our day greater scope has been allowed to individual benevolence; and to such an extent has this idea prevailed, that some people begin to hold the opinion that all existing charities may be as well and impartially administered by private individuals or associations as by local authorities or even by the State itself.

The "Edinburgh Association for Improving the Condition of the Poor" belongs to this category of private benevolent associations. In fact, it is one of those modern experiments in "sociology," of which the success will exclusively depend upon the manner in which it is carried out. As we have already characterised it, it appears to be an attempt to eradicate poverty and extinguish crime on the principle of voluntary association. But, although the Scotch are unquestionably the best voluntaries under the sun, the idea does not seem to have germinated in the northern capital. Either Paris or New York is entitled to the honour of being regarded as the birth-place of the present highly popular theory of amalgamating existing charities, or at least of opposing a united and articulated organization to the inroads of poverty, disease, and crime. Since, however, Edinburgh has been all along abreast of the movement, and more particularly has supplied us with the most voluminous reports on every phase of the subject, we cannot do better than give some account of its progress as developed and at present exhibited in that ancient city.

It is first of all necessary to explain that for some years past much attention has been directed to the deplorable condition of the industrious poor of Edinburgh. The late Dr. Chalmers made strenuous efforts to arouse the attention of his backsliding congregation to the utterly abandoned state of the Cowgate and West-port; Dr. Guthrie's eloquent denunciations of the sins and sorrows of the city fell upon the astonished ears of his fashionable congregation like a thunderbolt; and Dr. Begg's able and more practical efforts at amelioration are well known to our readers. At the same time the ecclesiastical reformers were ably seconded in their efforts by the more scientific and better regulated researches of the medical men. The late Professor Alison's discoveries on the origin and causes of contagious diseases were chiefly made in the dismal cellars of the Cowgate and Cannongate; and these discoveries were tolerably well applied some years later by one of his quondam pupils, Dr. W. T. Gairdner. Dr. Foulis, a philanthropic physician, actually purchased an old close, and after repairing it, renovating it, and supplying it with water and other necessaries, succeeded in demonstrating that the existing evils, bad as they were, could be diminished, if not entirely prevented. This school of medical reformers at length brought to light Dr. Littlejohn's admirable report on the sanitary condition of Edinburgh, from which report we believe have sprung the subsequent city improvements inaugurated so ably under the auspices of the Lord Provost (Mr. Wm. Chambers). Of course, it is unnecessary to state that all this time the press was not idle. The *Scotsman*, the *Edinburgh News*, the *Scottish Press*, the *Evening Courant*, and even the poor old and now defunct *Caledonian Mercury*, made important special inquiries, and published long articles on the condition of the poor. Many private citizens, such as Mr. Charles Cowan and Mr. Thomas Knox, published pamphlets, and otherwise threw themselves with great earnestness and zeal into the practical questions of reform.

At length about three or four years ago the *Scotsman* undertook to expound at great length and, as we remember, with much ability the subject of the constitution and operation of the "Charities of Edinburgh," which had long been in an unsatisfactory condition. Irrespective altogether of the Poor Law Boards, it was found there were no less than thirty-six different charitable associations in Edinburgh, all engaged in the same common cause, and mostly supported by the same class of benevolent individuals. The sensible conclusion to which the writer came was this: that those various charities, from their isolated character, lost much of their usefulness; that their cost of management and administration was wasteful and extravagant; that, after all, they failed to meet their intended purpose; and that some method of combining them and organising them was urgently needed.

It happened very opportunely, about the same time, that public attention and curiosity were excited by an American gentleman, who was at that time residing in Edinburgh, and who pointed to certain well-organized charitable measures which had been employed with remarkable success in different Continental and American cities. By means of several private lectures which he gave, and by the publication of a pamphlet on the subject (in which he was ably assisted by a lady who is interested in the scheme), public interest was deepened and extended. Upwards of one hundred influential citizens of Edinburgh, ministers and laymen, together with all the leading newspapers, cordially concurred in lending their names and commending the charitable measures and intentions displayed in the pamphlet.*

To sum up the author's conclusions, the plan is based on three great principles:—

"1. Thorough systematic investigation of the actual conditions and wants of all the poor in a city.

2. Suitable relief given in every case of need, in ways which tend least to abuse, or to degrade and pauperize the receiver.

3. Relief given as far as possible by methods which enable the poor to help themselves, the great object being to prevent cases of temporary destitution from becoming cases of permanent pauperism."

The author proceeds to support this scheme by

* "How to Relieve the Poor of Edinburgh, and other great Cities, without increasing Pauperism: a Tried-Economical, and Successful Plan." Edinburgh: Edmondson & Douglas, 1867.

references to the methods of systematic benevolent distribution in Paris and New York; to Liverpool; to Elberfeld, on the Rhine; to Calcutta, and to Bombay, as conducted under the auspices and supervision of Dr. Duff. The French and American systems, however, are those upon which he chiefly builds, and which, he tells us, "are totally independent of all church or congregational organization." It is easier, he adds, to form a visiting society quite independent of all churches rather than one dependent on their co-operation with each other, and a good deal more to this effect. Our readers will, of course, recognize at once the principle of absolute secularization in this American scheme of benevolence. The churchman to the cure of souls; the layman to the cure of bodies. We will not stay to notice it at present, further than to point out the fact that the visitors, to whatever church they happened to belong, would necessarily require to be sincere and benevolent Christians! In the city of George Combe and his disciples the principle seems to have met with general approbation, more particularly with that of the Lord Provost, who, we are informed, had long meditated some kind of similar organization on the subject.

The preliminary proceedings were conducted with great administrative skill. As a first step the Lord Provost issued numerous invitations to take part in a meeting to consider the "practicability and expediency of adopting measures to simplify, economise, and concentrate the action of the public charities of Edinburgh, as well as to improve the condition of the really deserving poor." The invitations were cordially responded to in every quarter; and a large number of ministers and doctors, as well as men of all parties and denominations, assembled in the council chambers. The Lord Provost presided; and in explaining the object of the meeting, drew attention, in very emphatic terms, to the unsatisfactory organization and results of the present charitable institutions. Without for a moment inferring that those charities were badly or recklessly administered, and while giving their managers all honour and credit for their efforts to succour want and infirmity, he deplored the absence of all systematic action. He also pointed out how it was possible that, by insufficient and unsystematical arrangements, they might be absolutely nourishing the diseases which it was their intention to assuage; and that in consequence of the present desultory system it was to be feared that they encouraged imposture on the one hand, while, on the other, many of the really deserving and modest poor were left in obscure holes and corners to suffer the pangs of misery and neglect. He further illustrated the need of more united action and of well-organized and systematic measures, by explaining what serious evils result, not only to the poor, but to all classes of the community, from the deficiencies of our existing charitable arrangements; and he finally declared that the whole system now pursued was fraught with consequences alike painful and reproachful; and that it could not possibly fail, if its operation were continued, to damage the best interests of the city. The proceedings were brought to a conclusion by the appointment of a large committee, consisting of upwards of seventy clergymen and laymen, representing every shade of theological and political opinion.

This meeting in the Council Chambers was held on the 15th April, 1867, and the first practical result of the meeting was the production, ten months afterwards (28th February, 1868), of a voluminous report on the whole cognate subjects, written by Dr. Alexander Wood.* This gentleman, it appears is one of the medical school of reformers which we have already indicated.

We will not criticise a report which is written gratuitously and for benevolent purposes. To those who have not studied too minutely the various phenomena and the innumerable circumstances of which it professes to treat, this report may be justly considered valuable. Certainly it contains a large store of facts, and a perfect labyrinth of statistics such as they are. Its practical conclusion may be expressed in three lines: "The only one of these schemes which the committee would recommend to take up at present is the thorough and systematic house-to-house visitations of the poor" (Introduction, p. 15) and also to this end, "that a central office must be established in connexion with it."

And accordingly a central office was established at 25, York-place; active operations immediately commenced; district visitors volunteered; a manager was appointed, at a salary of 120*l.* a year; and the Edinburgh Association for Improving the Condition of the Poor is at this moment in full working order. But, as the national poet Burns has it, the best laid schemes of mice and men often "gang agly." The apothegm would also appear to include the most benevolent schemes. For only last week, on applying to the town council for their reasonable share of the preliminary expenses—guaranteed as they had thought by the Lord Provost and magistrates—the association were bluntly told that they were doing more harm than good; that they were teaching the whole poor of Edinburgh to seek alms; that before they began dispensing money at such a wholesale rate, they should have paid their printer's bill; and, finally, that the members ought to be aware of the old proverb, that charity begins at home! Well may the association retort on the town council in the memorable lines of Tom Hood:—

> "Oh, for the rarity
> Of Christian charity
> Under the sun!"

* Report on the Condition of the Poorer Classes of Edinburgh, and of their Dwellings, Neighbours, and Families. Edinburgh: Edmonston & Douglas. 1868.

GLEANINGS FROM THE ARCHITECTURAL FIELD OF 1868.*

One great advantage which the architectural practitioner of the present day enjoys over his predecessors in the art, is that of having brought constantly under his notice the works of his own time, as they are going on around him throughout the world. One hundred years ago it was absolutely necessary for the architectural student, if he would gain any competent knowledge of the state of his art prevailing even in this country, to travel extensively to the various cities and centres of industry. It is true, nevertheless, that the present easy acquirement of current architectural knowledge has had some evils connected with it, and these of a serious kind. The active and enterprising spirit of the age which has developed the cheap illustrated architectural periodical has brought along with it more weighty demands than ever upon the skill of the architect, and has given him shorter time for his tasks. Time for thought being denied him, and having treasures gathered round him from all quarters, his works have become rather adaptations than original productions; and, drawn hither and thither by the rival attractions of various styles, he has often attempted them all, and thoroughly worked out none. With his accumulated knowledge he has been like the man who was said to have so many books on his head that his brains could not work. This drawback is, however, one which may, and should be, overcome by the man who wishes to become a true architectural thinker. Let him select what style he chooses, in the first instance,—one in which he can labour with delight, *con amore*,—and, bringing all his knowledge of that style, and all his artistic feeling, to bear upon the work, he will gradually, without fail, expand and develop his adopted style in a natural manner, and with a success which will be of the highest value to the cause of art. I think that I am fairly borne out by the facts, when I assert that this has been the case in the career of the greatest architects. Brunelleschi, Palladio, Wren, Chambers, and, indeed, Sir Charles Barry (as his best works were Italian), were men who spent their lives developing *one* adopted style; and such are Pugin, Scott, and Street. No style monopolizes every beauty any more than any type of scenery in nature; and where we detect a beauty lurking in the features of any other style than our own, we are perfectly free to follow and adopt it so long as the new beauty will but agree with the old. But rival beauties are proverbially dangerous in art as well as in social life, and it is therefore necessary to do our spiriting gently. For instance, you see a beautiful picture in the artist's studio, deep-toned and subdued in colour; everything, indeed, about it being made subservient to the forcible telling of the story, say one of the late C. R. Leslie's, and you admire it exceedingly. A few months after you visit an exhibition, and seeing the name in the catalogue, look out at once for your favourite. "Alas, how different, yet how like the same!" The glory has departed! How? By the presence of a rival beauty beside it in the shape of a richly-coloured glowing landscape by Turner & Linnell. The one picture has killed the other. Two notes in music may be beautiful when each is sounded alone, but when brought into rivalry how great the discord.

Notwithstanding the above remarks, the advantages of a constant view of the architectural field around are, I repeat, great. Example is better than precept. As we view the works of others from week to week, we are thereby incited to emulation and strenuous endeavour; and by the manner in which difficulties have been worked out and overcome, we are encouraged to grapple manfully with our constructive necessities in order that we may enshrine them in a form of consistent and truthful comeliness. From the abundant harvest of our art during the past year, 1868, as chronicled in the pages of the *Builder*, I have gleaned for my paper this evening a few illustrations of buildings on which to comment, trusting that the subjects thus brought under our view may afford us food for discussion. As distance is said to lend enchantment to the view, we will commence, if you please, at the Antipodes, with—

*St. Patrick's Roman Catholic Cathedral, Melbourne.**

This important edifice was begun in the year 1858. The plan comprises nave, transepts, and choir, with aisles to each on both sides. The choir has an apsidal end, and five chapels open out from the aisle which surrounds it. There are two towers with spires, each 220 ft. in height, at the south-west end of the nave, and a lantern tower and spire, 330 ft. high, at the intersection of the nave and transepts. The extreme length of the church interior is 345 ft. The width inside the nave and aisles is 76 ft. The interior length of the transepts is 160 ft., and the height to the ridge of the roof is 92 ft. At the time the *Builder* writes, the nave and aisles, and two western towers, had been commenced; the nave and one aisle had been roofed in, and nearly completed, and the stone vaulting of the second aisle was making rapid progress; one of the towers was up ready to receive the spire, the other being complete to the floor of the upper belfry, and a portion of the bells had been hung in the western tower. The architects are Messrs. Wardell & Co.

The brief account of the building which I have extracted, will show that it is a church of a class which is rarely built in these days, although there are not wanting signs just now of a return to the old enterprise for building cathedrals, displayed so nobly in the Middle Ages. The new Roman Catholic cathedral at Westminster is likely to be of first-rate proportions. Here, in Liverpool, we have had a good deal of talk and correspondence in the papers about a Protestant cathedral, which I trust will not be allowed to rest till it result in the matter being accomplished. But to return to our subject.

The general external effect of the church is pleasing, reminding one much of Lichfield, with its three spires. The disproportion between the western and central towers is, I submit, too great. The same fault is observable, I think, in York Minster, where I always feel that the end towers look dwarfish when compared with the great central tower. In the body of the building the architects have lavished the most work upon the north transept elevation, which has three large doorways, in the Continental manner, with a magnificent rose-window above, the gable being occupied by three windows. In contrast with this front, the west end is kept too plain, and is scarcely, I think, worthy of the rest of the building. In justice, however, to the designers, I think it is evident that the transept doors have been made for some reason or other the main entrances to the building, a reason which would justify the designers to a great extent in devoting so much attention to them. The flying buttresses in their design are scarcely characteristic enough of stone. They resemble too much roof timbers, and one is reminded by them of a series of ornamented props, stuck up against the building. The top of the central tower appears somewhat crowded, in consequence of the canopies over the belfry windows running into the battlement above. The uncrocketed spire above this tower is not in harmony with the richly crocketed pinnacles around it, and the contrast between the two gives a baldness to the spire which otherwise it would not have. In the case of the west towers, the crockets are omitted with much better effect. There is a feature about these towers to which I wish to draw attention. The angles formed by the buttresses at the

* Read at meeting of the Liverpool Architectural Society, Jan. 27.

* See *Builder*, vol. xxvi. p. 894.

three corners are filled up with a splay, the wall being built out from the level of the belfry windows. This is a good idea. The towers are not large enough to allow of broad faces to the buttresses, and the architects by this means are enabled to project them out boldly without their having a meagre appearance, the great disparity between the faces and the sides being concealed by these projecting splays. Another good feature about the church is the way in which the line of the parapet surmounting the clearstory is carried round the western towers and across the west front, where the ornamental pierced work of the flank elevations might have been again introduced with good effect. However, even as it is, this feature gives much unity to the design. Taking the church as a whole, I consider that it displays a good deal of "character," the element so ably insisted upon by Mr. H. P. Horner. There is a dignity and repose about the design well fitted for the sacred purpose to which it is to be devoted. By all that we can gather from the description and the illustration, it fulfils very fairly Sir Henry Wotton's three requisites —"Stabilitie, Firmnesse, and Delighte."

My next illustration is the interior of St. James's Church,* Kidbrooke, near Blackheath: Messrs. Newman & Billing, architects. This church, we are informed, was consecrated by the Bishop of Rochester, in July, 1867. It contains accommodation for 1,000 persons, and cost, exclusive of the organ, reredos, pulpit, fences, lighting, &c., about 7,000*l.* The tower and spire, 160 ft. high, are at the east end of the north aisle, and a vestry at the opposite side. The organ-chamber is formed on the ground-floor of the tower. The reredos, pulpit, reading-desk, and font are wrought in Caen stone, with alabaster and marble columns introduced. The church is built of brick, with Kentish ragstone facing, and Bath stone dressings. The pewing and stalls are of deal, stained and varnished. The chancel is laid with encaustic tiles. The whole of the windows are filled with geometric tracery. The interior is chiefly noteworthy for its carving, and the novel mode of lighting by means of coronas surrounding the piers above the caps. The carving was executed from designs furnished by the architects. It is very elaborate, but not, I think, sufficiently conventionalized. In the large-sized view of one of the pier capitals it will be seen that the small sprigs introduced just above the necking look stuck on, like sprigs of holly in Christmas decorations. This opens up a nice question as to how far the use of natural foliage may be indulged in in architectural decoration. For my own part, I am of opinion that it may be laid down as a sound principle that all carving ought to be conventionalized to some extent before being used in connexion with architecture. This extent must depend very much upon the character of the buildings in which it is employed. In the Greek edifices, which were as far removed from any connexion with Nature as any buildings have ever been, we find the carving severely conventionalized, only still retaining the beauty of form and plan of structure derived from the natural model. In the Norman we find much of the same severity; but in the Gothic Pointed architecture we come upon a much closer imitation of nature, yet still conventionalized. This relaxing of the severity of the earlier style was only consistent with the architecture, which became itself much more closely allied to nature:—

> "The pillars with cluster'd shafts so trim,
> With base and with capital flourish'd around,
> Seem'd bundles of lances which garlands had bound."

But in all this change the workman was much more than a mere clever copyist. He took, it is true, the plans and details of his leaves and flowers from the hand of Nature, but nothing more, following her only in those elements of general form and contour which were common to both. The brackets under the shafts supporting thero of timbers in this church are, I think, taken in their general form from the well-known examples at Lincoln. The east window is of good design. The filling-in of the arch over the organ with open tracery is an idea worth noting in the present day, when there is scarcely anything in the shape of an organ-case provided. The tracery will help to hide the tops of the large wood pipes, the swell, and other excrescences.

With regard to this method of lighting, I can testify that it has a most beautiful effect. About two years ago I stayed at York over the Sunday, and attended evening service at the cathedral, which is now lighted in this manner, and a more striking sight I have seldom seen than the long nave, with the line of brilliant rings of gas jets illuminating the soffits of the immense arches. By this method the piers cannot cast any shadow over the pews, and the light is equally diffused through aisles and nave.

Again leaving England, I must ask you to return with me to Melbourne,* where the new town-hall is now being erected. The foundation stone of this structure was laid by his Royal Highness the Duke of Edinburgh, on the 29th of November, 1867.† This building is another evidence of the magnificent way in which they build in the new colony. There is a good deal about the general treatment of the whole which resembles our Liverpool municipal offices. In both buildings a large Corinthian order is employed, with attached columns and pilasters, and a lofty attic above. In both we have pavilion roofs at the corners. The position of the tower, however, in both is different,—in the municipal offices being in the centre of the front, while in this example it is at one angle. As far as the tower itself is concerned, this may be perhaps the best place for it; but, taken in connexion with the rest of the building, it appears misplaced, as it destroys the balance of the whole composition, which is one of the leading charms of the Classical style. The towers of both buildings are composed of much the same elements—viz., a columnar order—a clock-face story and a terminating story, which in the Melbourne structure consists of a slated dome and lantern. The clock-face here forms a base for the columnar order; in the municipal offices it is above. Here, although the clock story is somewhat bald in design, it still forms a pleasing contrast to the lighter and richer story above. Here the architects have taken considerable liberties with classical traditions in making the pedestals of the columns and the breaks in the entablature above circular in plan. This is certainly a mistake in the case of the pedestals, as they have lost thereby the effect of contrast presented between the square pedestal and the circular shaft above. The circle in the entablature gets over the difficulty of having a square break at the angle, and is therefore much less objectionable. The attic between the pavilions is too much broken up, and is scarcely severe enough in character to harmonise with the Classic order beneath. The large Venetian windows lighting the upper story appear to be of good design, and will have a fine and bold effect with their deeply-recessed arches. The composition of the two heights of windows beneath the tower is very happily managed. The architects here have wisely substituted a pedimented head over the upper window in place of the round arch, which would have looked weak and unsatisfactory. As it is, the large pilasters at the angles of the tower, with the deep entablature and the smaller pilasters and entablatures of the windows, are in accord one with the other, as they are both doing precisely the same kind of work in a precisely similar way. The harmony would have been complete had the large angle pilasters been coupled like those of the upper window.

Possingworth Manor, Sussex, the Seat of Mr. Louis Huth ‡

This house is situated on ground rapidly falling to the south, commanding extensive views, and is screened at the back by a belt of fir trees. The materials used in the construction of the house are red brick with Bath stone dressings and slated roofs. The principal rooms on the ground-floor are the hall, dining-room, morning-room, drawing-room, picture-gallery, and conservatory. In the centre of the building is a quadrangle, entered under a gate-house, by which access is gained to the porch, forming the principal entrance.

The hall, which forms the south side of the quadrangle, is 50 ft. by 20 ft. in the clear, and 40 ft. to the underside of the ridge-piece, with an open timber roof. In the hall are the principal staircase, entirely of oak, with carved panels, an ornamental chimney-piece, 15 ft. high by 9 ft. wide, and several stained-glass windows, the one at end of the hall having representations of the Seasons, the bay window on the north side the Months, and the other windows various subjects. At the end of the hall is a gallery for musicians, or for lookers on. The dining-room is 38 ft. long by 22 ft. 6 in. wide by 16 ft. high, and is entered directly from the hall. In this room are a large bay window, 17 ft. by 8 ft. inside; a recess, opposite the bay, in which is a carved oak sideboard, specially designed by the architect; a chimney-piece carved in stone; and an elaborate ceiling. From this room leads the southern turret, forming a recess on the ground-floor, and from the top of which a fine view of the country is obtained.

To the west of the dining-room and south of the hall, from which it leads directly, is the morning-room, 25 ft. by 22 ft. On the south side are steps into the garden. The drawing-room is 43 ft. by 30 ft., exclusive of two bays, each 17 ft. wide by 7 ft. 6 in deep. The walls are all panelled in oak, and the ceiling is elaborate. Between this room and the picture-gallery is a fine flight of steps leading into the garden, the balustrading to which is of pierced stonework. On the west of the quadrangle is a corridor; next which is the picture-gallery, 60 ft. long by 23 ft. wide by 22 ft. high. The ceiling is trabeated, the panels being of open ironwork between carved and moulded oak beams, supporting the glass, forming the inner ceiling of the gallery, which is lighted from above; the beams rest on ornamental brackets, which are supported on corbelled heads, carved. The gallery leads from a triple-arched doorway on the west side into the conservatory, which is composed solely of glass and iron. The roofing of glass is supported on iron columns, with ornamental cappings, and is crowned by a light glass and iron dome. To the north of the picture-gallery and conservatory is Mr. Huth's room, 43 ft. by 20 ft., with a bay at the west end, and a polygonal bay on the north.

The whole of the east wing of the building, about 100 ft. by 70 ft., is occupied by the kitchen and its offices. The kitchen itself is 36 ft. by 18 ft., by 24 ft. high, with an open roof crowned by a lofty turret. It is fitted up with cooking apparatus, plate-warmers, ovens, &c. Round it are placed the larder, scullery, dairy, yard, servants' hall, and so on. There are four water-closets on the ground-floor.

The first floor is devoted entirely to bed and dressing rooms, with a bath-room over the porch, and various domestic offices. The principal bedroom, with its two dressing-rooms adjoining, is about 50 ft. by 30 ft. by 12 ft. 6 in. high, the other rooms in like proportion. The second or attic floor is also used for bedrooms; the rooms are 10 ft. high, and of various superficial areas. In the basement are extensive coal, wine, and beer cellars. At some distance to the east of the house are the stables, containing coach-house, stalls for four horses, six loose boxes, harness-room, open sheds, carpenter's shop, &c., forming a complete block, and a stable-yard 80 ft. by 70 ft. At the different entrances to the estate are three lodges. The cost of the building, including the stables, was slightly in excess of 60,000*l.*, and the whole was erected from the designs and under the superintendence of Sir Digby Wyatt, F.S.A.

On the arrangements of this house, which are well worthy of study, I have a few criticisms to offer. In the large hall the Mediæval idea has been followed out, with the bay window at one end; but a good portion of its length is occupied by the first flight of the stairs. This militates very considerably against its use as a ball-room or entertaining apartment, and I cannot help thinking that when so much space was sacrificed for the sake of carrying out the idea of the baronial hall, it would have been better to have had it thoroughly detached. Though nothing is said about it in the description, I should judge that it is very likely used as a billiard-room, as no other is provided in the plan, and the space left clear of the stairs is just about the area required for the purpose.

One great merit of the plan is the manner in which each department of the house is compacted together, and is complete in itself. The principal rooms, which face the south and west, are very admirably placed. First, we have the dining-room nearest to the domestic offices, so as to be conveniently served from the kitchen. Then the morning-room, with a door near the foot of the stairs, having a ready communication with the garden by means of an outer door and flight of steps; and then the drawing-room, facing south and west, thus having the sun throughout the day. All the space that could be spared on the south side of the room is given to large mullioned windows, the best out-look being in that direction. A feature worth notice is the screen around the door, an arrangement to be seen in many of the Elizabethan mansions, and of great value in rendering the room free

* See *Builder*, vol. xxvi., pp. 860, 861.

* See *Builder*, vol. xxvi., page 765.
† The architects are Messrs. Reid & Barnes.
‡ See *Builder*, vol. xxvi., pp. 712, 713.

from draught—a desideratum where ladies in evening dress are assembled. The picture-gallery leading from the drawing-room, together with it and Mr. Huth's room at the other end, form a noble suite of entertaining-rooms, 120 ft. long from north to south. The arrangement of Mr. Huth's rooms is very complete, having gun-room, strong-room, water-closet, &c., with a separate entrance, so as to be readily accessible.

The domestic offices are an excellent example of thoughtful planning. Notice, for instance, the position of the housekeeper's apartments. Situated at the angle of the block, she has complete control over the exit and entrance of the servants; on one side is the china-store, on the other the kitchen; and a little further off the butler's pantry and servants' hall. The passage from the kitchen to the dining-room is a little circuitous, though as a compensation it gives ready access to both of the dining-room doors. On the upper floor, we find the principal bedroom, with its dressing-rooms, forms a complete suite by itself, having a private passage. The other bedrooms are gained by means of a passage lighted from the upper portion of the entrance-hall; while another passage over the cloisters communicates with the north wing of the house, where the space is divided into three rooms for men-servants attendant upon visitors. The upper plan of the servants' portion of the house is equally good with the lower. The housekeeper's bedroom is at the corner, over her sitting-room, having the linen-store close at hand. The butler has a bedroom above his pantry, with a flight of stairs up to it from the pantry. Above the buttery is a lift for dishes. It will be noticed, on looking closely at the plan, that there is a double wall, with a cavity between the W.C. and the housekeeper's room, to prevent the noise caused by the closet from being heard. Externally, judging from the view given, the house presents a highly pleasing appearance and has no affectation of antiquity. It looks what it is, the mansion of an English gentleman, not "of the olden time," but of modern days, degenerate though some may deem them. The long lines of balustrading and formal terracing help gradually to unite the work of the architect with the works of Nature around. One satisfactory thing about the elevation is that it is honest. There is no studied irregularity here; all the breaks and excrescences are accounted for naturally in the requirements of the plan; and, despite these breaks, which are many, there is a general symmetry and balance which gives much dignity to the whole. What pleases me more than anything else about the whole exterior is the very clever arrangement of the picture-gallery and conservatory. When you think of it you will allow that a picture-gallery, 60 ft. long by 23 ft. wide and 22 ft. high, in which there are to be no windows, is an awkward feature to have to deal with externally. And now observe how well it is done here. One side is made to serve for the back wall of the conservatory. (Some may think the architect should have had the conservatory on the other front, and which is decidedly a better aspect; but, considering the fine view on that side, I do not think that the space for it could well have been spared.) But to return. The conservatory, with its raised centre, breaks up the long line of the gallery, just leaving sufficient of it in view to show the connexion between the two sections of the house. But then on the other side was the other long wall, 22 ft. high, to deal with. This, again, has been overcome by the introduction of a corridor, one story in height, with an open arcade, which is useful as connecting the two wings of the mansion. Above there is a similar passage, but narrower, which is lighted with three windows, and so the whole difficulty is mastered. The doorways opening on to the flats above the large bay windows is a novel idea which I do not remember to have seen before.

*Humewood, County Wicklow, Ireland.**

The view of this house appeared in the *Builder* of August 8th, in which we are informed that it was then in course of erection for Mr. W. W. Fitzwilliam Dick, M.P. for the county of Wicklow. It stands in a commanding position, well surrounded with rich woods and mountain scenery. The walls are entirely of granite, and the roofs covered with tiles. The kitchen offices are in the basement a few feet below the ground-level, giving considerable elevation to the ground-floor, which is approached by a stone staircase from a vaulted hall about 40 ft. in height. This hall forms the base of the tower.

The fittings of the interior are being constructed of various coloured woods, the staircase being in oak. Provision is made in various ways for defensive purposes, if necessary.

The house being intended chiefly for a short summer residence, provision has been made for a system of warming and ventilation throughout during the time that it will be unoccupied. The whole of the basement is vaulted in brick. The ceilings and floors over the dining-room, drawing-room, &c., are supported by massive oak beams, and finished with cornices of wood. The kitchen is open to the roof, and well separated from the habitable part of the house. There is a lift for coals and luggage from the bottom to the top of the house, and dinner is to be served by a traversing wagon passing up the stairs to the serving-room. The windows of the hall and staircase and upper portions of those of the living-rooms will be filled with stained glass, containing armorial bearings. Mr. William White, F.S.A., is the architect.

The exterior of this mansion is eminently picturesque, the architect rightly considering that the romantic scenery in the midst of which the house is situated demanded the use of what may fairly be called the Romantic style. The sentiment of affection for "the good old times," as they are very wrongly called, has inspired the conception of the whole; but this feeling is kept well in check, and is not allowed to interfere seriously with the comfort or convenience of the dwelling. Yet after allowing that much ability is shown in the design, it is after all an acted style, and in this respect contrasts badly with the truthful expression of modern wants and requirements, shown in Possingworth Manor, which I last noticed. Such a building as this is a piece of architectural scene-making, which does not advance except in a very limited degree, the true interests of the art. The clever way in which the whole mass of building is grouped together shows the hand of a capable architect as well as an antiquary. The manner in which the lines of the tower are gradually brought with an easy flow to the ground is well managed, and the carriage porch, with its massive buttresses and deeply-shadowed portal, is in perfect keeping with the pseudo-donjon keep behind.

And now let us turn to an edifice of a very different nature to the above, viz.,

*The New University of London,**

by Mr. James Pennethorne. The *Builder* observes, "After long endeavours a building is being provided for the London University at the public expense. It occupies the northern portion of the ground in which stands Burlington House, and fronts in Burlington-gardens. Of this elevation we give a view, together with a plan of the ground-floor. The design at first selected was objected to after the works had been carried on to a certain extent, and a fresh design, that now illustrated, and which is being proceeded with, was made. The plan shows the arrangements of the building and the principal apartments. The accommodation provided will be as follows:—

Upon the Ground-floor.	ft.	ft.
Entrance-hall or corridor		
Public staircase	33	by 33
Hall for conferring degrees	72	by 56
Ditto for public examination	72	by 53
Small hall ditto	61	by 32
Waiting-room for candidates.....	61	by 32
Two examiners' rooms, each	22	by 16
General waiting-room.....	26	by 18
Clerk's room	18	by 14
Room for specimens and apparatus	26	by 18
Messenger's room	18	by 14

Upon the first floor are senate-room, committee-room, registrar's official room and private room, room for clerk of convocation, library, laboratory, anatomical room, and two professors' rooms. Upon the second floor will be apartments for the housekeeper, &c., and on the basement-floor rooms for the lithographer, for muniments, for stores, for the housekeeper, and so on. The principal front of the building is, as we have said, towards Burlington-gardens, and will be faced with Portland stone and red Mansfield stone intermixed, the enriched string-courses being of Hopton Wood stone. The estimate submitted to Parliament for the building was 65,000*l.*, exclusive of fittings, and this amount, it was stated to the House of Commons, will be considerably increased by the change of style."

The façade given in our illustration is a good specimen of Mr. Pennethorne's ability in the Classic style. The raised centre of five bays flanked by the two clock-towers, is advanced out from the line of the front, and attains thereby a distinct completeness of its own independently of the rest. The arrangement of the columnar order at each end of the centre, where it abuts on the tower, is worthy of note. Many an architect would have been content to have had here merely a half-column in the angle; but Mr. Pennethorne, with excellent judgment, has finished the arcade with a full column at each end, the pilasters at the angles of the towers, giving the required finish to the order which is thus arranged like a temple in antis. Having a long front to deal with, and of no great altitude, the architect has endeavoured by every means possible to give height to the façade by breaking up the front and introducing perpendicular lines in the shape of pilasters, long and narrow windows, and statues on the summit. By these means the effect of too great horizontality is avoided very successfully. The treatment of the wings is particularly happy. The solid masonry of the lower portion, sufficiently relieved from heaviness by the statued niches, affords a pleasing contrast to the open colonnade above, an arrangement very similar in idea to that of the wings on the east front of St. George's Hall, only that here the effect is obtained without such a serious sacrifice. In this upper portion of the façade the round shafts dividing the windows, contrast with the flat pilaster very pleasingly. Indeed, throughout the whole elevation there is a delightful play of contrast which fully occupies the eye without distracting it. There is no apparent striving for effect, so frequently a fault in our modern buildings, no crude half-conceived novelty impertinently thrust in; but, taking the old classical elements, a harmonious, dignified, and highly-effective composition has been wrought out of a slightly monumental character very appropriate to the purpose of the institution. There is only one feature in the building which does not thoroughly satisfy me, and that is the attic terminating the towers, which is treated in a similar way to the story below it, and the angle pilasters, being so much shorter, appear dwarfish and heavy when contrasted with those beneath. A broad face of masonry was quite necessary here, no doubt, to carry up the line of the towers, but it might have been done with better effect, either with coins or simple unbroken projections. The dwarfish character of these pilasters is made still more apparent by the line of the balustrade being carried across the towers beneath the clock.

In concluding this paper I gladly express my belief in a glorious future, which is before our art. In spite of much weakness and numerous failings in the architectural works of our countrymen at home and abroad, no one can deny that great progress has been made in the last twenty years. That progress I attribute in a large measure to the greater liberality and breadth of thought begotten by the extensive circulation of the architectural newspaper, and the keen discussion of art subjects which has taken place in the numerous architectural associations throughout the land. The public mind is more interested in the subject year by year. A proof of this is afforded in the interest taken during the last few years by the public journals in the fierce "Battle of the Styles." But perhaps the greatest evidence of the rapid changes which our art is making is given by the extraordinary transformation in the revived Gothic style since the period of its resuscitation by Rickman and his followers. Compare some of the ultra-Mediæval edifices of the present day which occasionally startle us with one of the early revived Gothic designs, and you hardly recognise the relationship. Abroad, in France, on the other hand, great advance has been made in the development of a Classical Renaissance style, which in the elegance of its details and severity of its mouldings has emulated the ancient Greek. The fact that eccentricity and fanaticism accompany this forward movement only shows that the rapid stream is swollen and so deeply agitated as even to tear up the natural channel through which it speeds in its onward course to the distant ocean.

"Not in vain the distance beacons. Forward, forward, let us range.
Let the great world spin for ever down the ringing grooves of change.

Yet I doubt not through the ages one increasing purpose runs,
And the thoughts of men are widen'd with the process of the suns."

W. H. PICTON.

* See *Builder*, vol. xxvi., pp. 588, 589.

* See *Builder*, vol. xxv., pp. 854, 855.

PUBLIC WORKS DEPARTMENT, INDIA.*

THE course pursued is as follows:—The chief engineer lives at the seat of Government, and being secretary for public works as well, takes the general direction of works on behalf of the civil administration. He is assisted by superintending engineers, who reside at some central station, and regulate all works in a certain area, which is usually very large, some circles being the size of Scotland, and others the size of Wales. The superintending engineers disburse no money, and keep no accounts. They do not even draw up designs or estimates unless they like;—simply receive schemes for check, and exercise a supervision more or less loose over those who are engaged in carrying out works. They have it very much in their power to settle down into a steady-going routine, varied by what is called their cold-weather inspection. At the same time, superintending engineers are seldom, in the efforts they make, behind other Indian officials; and that they are not as useful as they might often be, is owing to the system, and to circumstances. The superintending engineers, who are few in number, there being only sixteen for the Bombay and Madras Presidencies put together, and about thirty for Bengal, have under them from four to eight executive engineers apiece, by whom, and their assistants, the work of the Department is virtually done. That is to say, if the superintending engineers were eliminated there would be little change perceptible in the progress of public works. The executive engineers and their assistants prepare as a rule all the designs and estimates, and spend and account for all the money. There are some 400 or 500 executive engineers in India, and through them the entire grant for public works may be said to pass. Their present salaries for civil engineers range from 6,000 to 11,000 rupees a year, the equivalent of 300*l.* to 540*l.* a year in England, or even less. Executive engineers have, if their division is big enough, one or more assistants on say half their own pay, and several European and native subordinates. They are also furnished with an office establishment, and draughtsmen as required. Now supposing these agents were really zealous and efficient, as they are presumed to be by Government, the Public Works machine would go tolerably smoothly; but as it is, the only person really able to conduct very plain-sailing work at reasonable rates in so peculiarly constituted a situation as an Indian district, is not unseldom the executive engineer himself, who gets the blame if anything goes wrong. Executive engineers are placed in charge of what are called divisions, which may be only a large military station; or a military station, with a hundred or two miles of road tacked on to it; of so many miles of road; or of all works military and civil in a particular district. If the latter, which is most common, there is generally a principal town at which the European community, the troops, the magistrate, doctor, clergyman, &c., reside, and which the executive engineer makes his head quarters. The works are very much scattered about over the district, and the assistant engineers and subordinates are pushed out to superintend them. They get plans and instructions furnished them, and are occasionally visited by the executive engineers. As a rule, contractors on any scale do not undertake work for the Indian Public Works Department. In the words of the Department itself, "they are not to be got," yet it is strange that almost every railway work is done, and well done by contractors and sub-contractors. The fact is, that the Public Works estimates are framed upon the results given by daily labour or job work, executed under favourable departmental supervision; that is, by careful superintendents, whose pay has been separately provided for. So that as no contractor can hope to work so cheaply, and obtain a profit, none of any standing will come forward to tender; and such as may, look to securing one by getting bad work passed, and when found out discredit the system. If an executive engineer cannot obtain contractors, he has to employ daily labour. The additional anxiety and attention this requires is enormous. The subordinates in the district may be careless or unpractised, and either the executive engineer has to be constantly moving about, or else has to bear the brunt of the excess expenditure they incur. But if they are diligent, the daily labour principle takes up an undue amount of their time. Indeed, to get good results from labour hired by the day, and untasked, and to get money's value in the purchase of materials for a large work in small quantities, demands a great deal of experience and knowledge of what prices are in a locality, that it must take some considerable time for either assistant engineers or overseers to acquire; yet they are set to this difficult duty of managing daily labour without much personal control from the executive and superintending engineers, who are, perhaps, alone experienced enough to work the system economically, and catch it if they break down. If the Department is taken from the point of view of an assistant engineer, newly set to conduct works in India, it will show its weakest side; and that is the one which, if amendment is to take place, should have public opinion turned upon it. A newly appointed engineer lands at one of the presidency towns, where he finds civilized English society, and a mode of life not so very dissimilar to that of home, except that the extreme heat confines people all day to the house unless they go about in a close carriage. There are all the evidences of great wealth, and the bustle of an immense trade. All the professions are represented, and exercised in much the same way as in European towns. On the whole, the appearance of the presidency towns is such as to give a favourable impression of India to the new comer. An assistant engineer is posted somewhere in the interior very soon; it may be to a large military station, where he will still have European society; or to a wild district, in which Europeans are to be counted by the half-dozen, and are miles and miles asunder. He is paid the same in both situations; but in the one he can live in a respectable manner, while in the other, if not ravenously fond of sport, the style of life that has to be adopted on small allowances is little short of disgusting, ordinarily good food being hardly obtainable. The greater part of the interior of India is poverty-stricken to a degree. The people have few or none of the appliances of civilization. They inhabit hovels of mud and thatch most of them of the size of an English cottager's pigsty, and an agglomeration of these forms a town or village. They have few notions of cleanliness. Their carpet is a thin wash of cow-dung and water over an earthen floor. Their furniture a few brass or earthenware vessels. The animals herd in the small courtyard of each house, if not in an adjoining apartment. The streets run with sewage, and the air is charged with smells. About their ordinary avocations the greater part of the male population go nearly naked. The diet is either flour or rice flavoured with salt and pepper, relished with onions, and washed down with tepid water. So extremely filthy are all native towns and villages that no European could exist in close proximity to them, far less in them. Yet, be it in Calcutta, or in Madras, the natives themselves prefer such neighbourhoods and residences to anything cleaner and better. The rains in India are periodical, and while they fall the country looks rather fresh and green; but in the dry months which succeed, the surface is scorched, and in colour a dull brown varied by the yellow of the withered grass. Agriculture is very backward, being pursued under great difficulties. The plough is of wood, drawn by oxen. The cattle in India are miserable, dwarfed, ill-fed, and lean. In the rainy season there is grass for them, but in the dry weather they have to pick up a subsistence how they may. In consequence, they are stunted and incapable of heavy draught. The cows, again, belong to the same order, and have much the make of an English calf. The milk they give is of inferior quality, and even in European stations these animals are given stable litter to eat: on the coast they eat fish, so that Indian milk will not bear inspection, and tracing it to its source is enough to turn the strongest stomach. The fowls are not better tended than the other animals, so that their eggs have a taste, and the flesh is particularly sapless and uninviting. In the districts butcher's meat is not to be had to buy, as the people seldom use it. Milk, eggs, and fowls are the articles of food that go by the name of supplies; and it is a singular proof of the extreme destitution of the country that a traveller—and an assistant engineer is always more or less a traveller—has generally to arm himself with the order of a Government official, directing the villagers along his route to sell him provisions, which for mere money's sake they will not do. In many places where the assistant-engineer is sent to, he has to subsist almost entirely on preserved provisions brought out from England, and it is rarely he can anywhere do without some of them to supplement the scanty nutriment the country affords. The employment of an assistant-engineer is so various that it cannot be minutely described here. He is supposed to be furnished with designs by the executive engineer, and to have the carrying of them out. If he can get contractors, he has merely to measure their work; but, if not, he has to hire labour, keep the accounts, and disburse the pay. To assist him in this he has sometimes a European overseer or two, and always a certain number of natives. These latter have usually no theoretical knowledge, and very little practical information. They have most of them probably never seen good workmanship in their lives. Their pay is as low as their position, and they are of course naturally ever on the watch to make it up by peculation. If intrusted with petty purchases, as they must be now and then, they take a percentage systematically. Government have a great dread of entertaining capable men on liberal salaries. An assistant engineer who offered 10*l.* a month to one superintendent would run a risk of being turned out of his appointment; but he might take on ten persons, on 1*l.* a month, without any question being asked, or, still easier, five on 2*l.* a month. The duties of an assistant engineer are often not of a very high order, and many of them are beneath a highly educated professional man. He has, besides his surveys and designs, to direct workpeople, compile accounts, and disburse pay. As a rule, also, he is given more to look after than one individual can, without being constantly on the stretch, satisfactorily superintend. So that to perform what is set him at all fairly his constitution must be excellent, and he must have what is more rare,—a willingness to in all weathers go about the country, foregoing society and amusement, lodging and feeding in a poor way, while discharging functions that very often require little more than common sense and common honesty. At first starting it is almost impossible for an assistant-engineer not to be beset with an idea that a service of this nature was not what he was trained for, or suited to him; and it may be questioned whether, when he has overcome this feeling, he has gained anything to speak of. The whole arises from Government giving a lower salary to an engineer than to a young civil servant, and letting native subordinates into the Department before they are thoroughly educated, and also in the general state of depression in which the country is sunk. The upper subordinates of the Department are now, for the most part, European soldiers, who have gone to one of the four civil-engineering colleges, and there received a brief preparation. The course is mainly one of surveying, and when they leave the college they have of necessity to be taught the details of masonry, carpentry, and the like by those whom they are sent to assist. If not put to too heavy or too scattered work, and they can be instructed by any one above them, they answer very fairly as a class, and many are excellent subordinates. But in the case of men sent out into the districts, where with their scant allowances they cannot procure decent shelter or nourishing food, and are debarred from all associates of their own rank or colour, there is much temptation to unsteadiness. Where European overseers are chiefly found to fail is, however, in skill; for never having served a regular apprenticeship to the practical crafts, they have no standard to guide them, and want incessant watching and direction. There are very few upper subordinates natives. The charges are so large that an ordinary native is not physically capable of managing them. The travelling and exposure are too severe for him. He is also not so accurate, and not so persevering as a European, who gives his mind to a piece of work, and goes about what he is doing mechanically. Besides, in the Public Works Department, in the case of posts worth more than a small sum, the opinion acted upon in Lord Cornwallis's time in all departments, that no native is to be trusted, seems to survive. It is not altogether unfounded, because there are few natives in the position of subordinates who will not take per-centages from contractors and on purchases, and connive at those beneath them doing so as well. The practice is of long standing; and in the independent territories of feudatory princes all officials take bribes and have perquisites, from the Prime Minister downwards. A native overseer intrusted with the payment of gangs of labourers can, if he choose, appropriate a large amount to himself with hardly any risk of detection; and if

* See p. 83, *ante*.

he permits similar inroads by those under him, the cost of establishment becomes very high. The European overseer is found out at once if he attempts to misappropriate, on the other hand, and is, besides, disposed to rest satisfied with his salary, which the native is not. Another reason why natives are not numerous in the Public Works Department is that they do not think it a desirable line to take to. Engineering as a profession has hardly naturalized itself yet in India. The natives see, for one thing, that it is the worst paid kind of service, considering the responsibility, under Government; that most of the members of the Department are always travelling about the country in a most uncomfortable way; that the duties are more financial than scientific; and as their fellow countrymen have scarcely learnt to appreciate roads or bridges, or public buildings, which the general run of them say our forefathers did very well without, their engaging in their construction will bring them no honour or advantage. In fact, there are in India master masons who do most of the works, such as houses, bathing-places, temples, and wells. They are low in the scale of caste, but have a rude practical notion of building, and the rules of thumb as their caste secrets. These men are generally made use of by the Public Works Department in actual construction, but they are too illiterate to make designs or organize a large series of works. However, the natives see most of the work done by the Department of so simple a kind as to be within these men's capacity, and European engineers are tacitly set down as the equivalents in their own country of the master-mason degree.

Natives and other candidates for the Public Works Department are educated at civil engineering colleges, established at Roorkee, in the north of India, and at Calcutta, Poonah, and Madras. Roorkee is on the largest scale, and prepares the bulk of the subordinates for the Bengal side. These facilities are, however, far too few for the enormous extent of India. It is as if the engineers of France were all trained at Moscow. Did such a practice prevail in Europe, the profession would be filled with Russians. There are immense tracts of India, say between the Nerbudda and the Ganges, all Burmah, the Nizam's dominions, and other districts, where public works of magnitude are in progress, or sorely required, and there are no colleges at which the natives of those localities can receive a scientific education; and in consequence the agents of the Department are all strangers, and the service can never be popular because it excludes as unqualified every one belonging to the indigenous population, who is not willing or able to go hundreds of miles away from home to attend a civil engineering college. Natives are very fond of their own neighbourhoods, and dislike removing, unless actually driven to migrate in search of a subsistence. Though India is generally talked of as one empire, it is very composite; being made up of a number of provinces differing in climate, customs, wealth, and mode of government. Much of the central part of India, for instance, is thinly peopled, unhealthy, or desolate, and even to a native it is not the same thing living there as in the rich, and cheap, and for him salubrious, plains of Lower Bengal or Oudh. Salaries, however, except in a few notoriously deadly localities, are exactly the same all throughout the service, where provisions are moderate in price, as where they are twice as dear. Only in the three presidency towns is any difference made. It would tend to improve the Department, if colleges of instruction were multiplied, so as to bring them within reach of the inhabitants of every district. In the less important, they of course need not aim at so high a standard as in the colleges already established. These, however, especially Roorkee, turn out far too many half-educated subordinates; partly because the demand is so great, and partly in hopes that they will pick up a further amount of knowledge out on works, which, as opportunities are not abundant, and the stock of it upon which to build is limited, not one in ten perhaps does. This is particularly noticeable in the class of draughtsmen. The men sent out in this capacity, are the most miserable performers possible. They know nothing of free-hand drawing or perspective, and can do little more than trace from plans that have been pencilled in for them. This is entirely due to the course they have gone through being too hurried, and to the very small salaries offered in executive engineers' offices. The illustrations in the colleges' own publications show that, with proper instruction, good limners can be produced. The theory is that, once in an executive engineer's office, a draughtsman will improve; just as that subordinates who have never seen a stone quarried or the inside of a carpenter's shop, will learn all that is necessary while they are nominally assisting him, but whilst in reality that officer has to stand the brunt of their mistakes, which his superiors, who must hold some one to blame, invariably visit upon him. The duties of an executive engineer, who is, as it may be termed, the working man of the Public Works Department, are defined as follows by Government. The executive engineer, it says, is the officer in immediate charge of a division. In him is vested the management of all public works within that division. He arranges all the details of their construction; he superintends the works and accounts; he receives all cash advances and distributes funds to his subordinates; he is responsible for the proper custody and efficient repair of every work or building; and is answerable for the exact performance of all duties of whatever description connected with the Department. It is part of the duty of the executive engineer to suggest public improvements, and to prepare detailed designs for them; he is also to report on and suggest measures for the protection of any public monument or building of architectural or historical interest which appears likely to fall into decay. In addition to his other duties, he will consider himself to be *ex officio* the professional adviser of all departments of the administration within the limits of his charge. Executive engineers will prepare designs and estimates under the orders of the superintending engineer, and they are responsible for the accuracy of all drawings they submit. It is the duty of the executive engineer to pay strict attention to economical application of all labour and materials; he should also strive to bring economically into use, on all occasions, the articles procurable in the local markets and the natural resources of his district. He is held responsible for the good quality of all work done under his orders. He will afford his assistants every aid in acquiring professional knowledge, and must exact from his subordinates a correct performance of their duties, furnishing them with working drawings and written instructions as to the execution of any works they may be entrusted with.

Considering that a division may be the size of Yorkshire, his assistants new to India, and the subordinates college educated in theory alone, or corrupt, or intemperate, these qualifications expected from an executive engineer are pretty comprehensive. He has, let it be observed, not only to design all works, but to carry them out, and make most of the payments, and keep all the accounts connected with them. He is responsible for everything. If stupidity is shown by his subordinates, Government immediately say it is his fault, for not looking sufficiently closely after them;—if fraud occurs, that he has been too easy-going;—if prices are high, that he ought to have kept them lower, because three or four hundred miles off some one else does so;—if an estimate is exceeded, that it is very discreditable to him; and so on. At any rate, it would be thought that an official from whom so very much was asked, and who had so large a charge, would be very well paid in India. The remuneration, however, is thus arranged:—There are four grades of executive engineers: the civil engineer's salary in the lowest is 50*l.* a month, and in the highest 90*l.*, the intermediate grades being 60*l.* and 75*l.* These grades have no necessary connexion with the extent or importance of the division of works held. They depend upon length of service chiefly. Thus an engineer of the fourth grade may be succeeded in the same district or station by one of the first or second grade, and two engineers may be side by side with equal functions to fulfil, and yet the one receives about double the pay of the other.

Government dislike making a promotion from grade to grade oftener than once in two years, so that there is little encouragement to merit,—in fact, everything to stifle rising merit. For civil servants, that is, collectors of revenue and district judges, the successive steps are 47*l.*, 83*l.*, 112*l.*, 180*l.*, 230*l.*, 250*l.*, and 300*l.* a month; while, for civil engineers, they are 20*l.*, 30*l.*, 40*l.*, 50*l.*, 60*l.*, 75*l.*, 90*l.*, and 100*l.*, and very few appointments of a higher description. It is not generally known in England, that for a married man to live in India in respectability 50*l.* is the very lowest sum required. It used to be less, but of late years the necessaries of life have almost doubled in price. About 80*l.* a month income would just enable a person in the position of an executive engineer to pay his way and maintain a tolerable status. With less he would be far better off in England on 350*l.* a year. Hitherto Government, treating the Public Works Department as connected with the military service, have argued that if they get officers to remain with regiments for twenty-five to thirty years on pay not rising above 60*l.* a month, and for half that time not above 25*l.* or 30*l.* a month, they ought to get first-class engineers on the same terms, and do not take into account the essential difference between a scientific and civil, and a purely military service; one which demands a mere school-boy's education, and one that calls for considerable culture and ability. The situation of an officer with his regiment, an hour's morning parade, billiards during the day, and a pleasant mess party in the evening, no travelling, or no anxiety, except making two ends meet, is slightly different from a civil engineer out by himself in lonely seclusion, feeding how he can, charged with difficult works, burdened with accounts, and exposed to sun and weather.

Besides there being little in the grading, or in the salaries themselves, of executive engineers to really reward efficiency, especially in the case of young and rising men, the lift to the rank above is, pecuniarily speaking, a small one. The step from executive to superintending engineer is only worth at first 10*l.* a month. When, however, the duties of that class are recounted, it will be seen what further value it has. A superintending engineer, says the Government, is the officer next in rank in the executive branch to the chief engineer. A superintending engineer shall have nothing to do with the actual execution of public works, or with the disbursement of public money on account of works, nor with the provision or custody of any materials for the construction of public works, otherwise than as an officer of control. The permanent residence of the superintending engineer will be at some central point within his circle, which will be fixed by the local government. It has been already observed that there is in almost every province or considerable district a chief town at which there is some comfort and an agreeable European society to be obtained; while, on the other hand, without it, the country is destitute of everything of the kind, and often even of the commonest supplies. The consequence of this is that there is every temptation to be in the stations as long and as much as possible. Subordinates and assistant engineers are pushed out to do the hard work, and have the solitude and discomfort, while those above them take it as their earned privilege to be able to remain at their cheerful head-quarters. The superfluous amount of routine and office work is a further tie on the side of executive engineers, who do,—or, at least, the tendency must be for them to do,—as much as they can by correspondence, and as little by personal contact with their subordinates. It is not at all pleasant to leave family and friends and snug house, to go out and live in tents and huts and far distant places, for the sake of imparting elementary instruction to subordinates and workmen. The temptation is great to make occasional and rapid runs, bestowing a few words of caution and invective on the way, instead of that continuous and painstaking progress which anticipates all their omissions and errors. It does not follow that every executive engineer suits his convenience; but the climate and nature of India are such as to deter officials from being out in their districts as much as perhaps they ought to be. Superintending engineers especially, when they have too wide a circle to move over, and the means of communication are slow, are apt to stay at head-quarters, in place of diffusing their experience. They then slide into post offices between their staff and chief engineer, sometimes forgetting, in fussing about works lying near them, much that would be well worthy of a visit. Another feature of the Department is that a man may be a good architect and set to lay out roads; or he may be in charge of a canal one day and of barracks the next; or may be a fair mechanical engineer and at home in a workshop, and given bridges and drains to build. An engineer also with a desire to improve himself, has so seldom the opportunity. He is left alone if at an outpost, and scolded when he is supposed to have, or has, done wrong. Sharp, stinging, now and

then abusive, censure is unfortunately the characteristic tone of the Department, brought about by the unyielding economy of Government, which before all things exacts the cheapest rates, and the little superior officers know of the difficulties that the agents of the Department have to encounter in the prosecution of works. When it is not so bad as this, the attitude towards an engineer is always one of suspicion. A large share of the professional experiences of the departmental officers is got from their mistakes. The accumulated stock handed down from one member to another is very small. The process of this individual acquisition is painful not less than the performance of functions more or less of an office clerk and having to lead a vagrant vagabond sort of life, on allowances from a third to a half of those of the civil service. Now, this is not an overstrained depiction of the Public Works Department, as it will be found by a large proportion of the civil engineers who come out to India. As far as payment is concerned, the Indian Government always assert that economy must be studied; but why it is necessary to apply it to the Public Works Department more than to any other department does not appear. Economy is not very rigidly looked to in India, for there were the other day in a single military station in the south of the peninsula no less than forty majors and colonels drawing from 64*l.* to 82*l.* a month for doing literally nothing, or what is known as "general duty." Possibly there are throughout the Indian army 150 officers of high rank on the active list in receipt of these emoluments, and giving no equivalent; 150 civil engineers on the same pay would be a signal addition to the Public Works Department. The domestic drawbacks to India can be met to a certain extent by increasing the number of engineers. The amount of space to be travelled over would not be so great, and the leaning of human nature to civilized society would be indulged without sacrifice of efficiency. On the railways the resident engineers are much nearer each other, and have many advantages over the civil district engineer in Government employ. The profession, above all, needs raising. Neither in the eyes of the natives, nor most assuredly in the estimation of the authorities, is the Public Works Department much thought of. The civil officials have seen too often young men taken from regiments and dubbed engineers, and have also seen the consequences of want of a theoretical and practical training too frequently to entertain much respect for it. They take note of the inner working of the Department, and see that most of the energy, time, and ability of the establishments go in the preparation and rendering of accounts, and that the powers of the local superintending engineers are so restricted that what they most want done cannot be done. The most detestable structures rise up in spite of them, and the most impassable roads are made under their noses; yet they can do nothing, as the Public Works Department has its own heads and rules, and is out of reach of criticism and complaint. The work objected to is a sanctioned and a budget work, and must go on. They also cannot but remark the secondary sort of place given to engineers in the scale of remuneration, which does not come up to that of police-officers, or of natives in the Judicial Department sometimes. The grand remedy for all this resides, however, in the Government of India spending two or three times what they now do in public works.

THE NEW PRIVATE BILLS.

ILLUSTRATIONS by maps and drawings convey, concerning many affairs, whether the progress of a campaign in Abyssinia, the rearrangement of the representation of the people by a Reform Bill, or the improvements projected in a great city, more vivid and accurate impressions than can be given by any quantity of letter-press. Mr. Stanford, the geographical publisher, of Charing-cross, is enterprising in taking advantage of the capabilities of his art, as the public and those specially interested may be reminded by the issue of his annual map, showing the railways and other public improvements affecting the metropolis, for which plans may have been lodged at the public offices on or prior to the 30th of November in each year, and for which Parliamentary sanction is to be asked in the ensuing session. The new map just published contains an extra portion, showing the environs of London on a smaller scale, and embracing the greater part of Middlesex, with portions of the counties of Surrey, Kent, Essex, and Hertford. The extra map was needed to display the schemes of the four projects by which it has been proposed to obtain power to provide above 100 miles of street tramway in a single session. Only a small proportion of the mileage originally contemplated by these schemes is likely to be asked for, one of the most imposing, which proposed to lay sixty-two miles, having been already dropped. In addition to the four tramway schemes, which take four-fifths of the red lines in which proposed new works are shown, the map shows works proposed by fifteen existing or proposed railway companies, and nine miscellaneous schemes, such as markets, gas, and water Bills.

The new railways proposed to be constructed, according to the plans lodged on the 30th November last, embrace about fifteen miles within the metropolitan district; but the schemes likely to be prosecuted will not probably ask for more than a fraction of that extent, several of the most important of them being already dropped, including the Hyde Park and City, the Eastern Metropolitan Underground, the Clapham and London Bridge, and others. Some useful works are proposed, not for the greater part of very great extent, by the London and North-Western Company, a new approach from Euston-square; by the London, Chatham and Dover Company, station walls at Ludgate-hill; by the Metropolitan Company, station works at Westminster and at Brompton; and by the Metropolitan Company, alteration of station at Gower-street. Notices are given of a Courts of Justices Concentration Bill, for the Strand site already fixed, not adjoining the Thames Embankment; and for a Public Offices Concentration Bill at Westminster. The lodged plans include markets for Belgrave, and for Belgravia and Chelsea, adjoining each other in the Chelsea Bridge-road; a Bayswater market and baths; and a Westbourne market. Plans are also lodged for the long-proposed Park-lane improvement, at the end of Piccadilly; for a metropolitan improved water supply; and for certain new works of the Imperial Gas Company at West Ham.

NEW WAREHOUSES AND OFFICES, ST. JOHN-STREET, WEST SMITHFIELD.

DURING the night of the 10th of March last the premises belonging to Messrs. George Farmiloe & Sons, lead and glass merchants, in St. John-street, were consumed by fire. The "devouring element" left little more standing than the external walls, and these were so injured by the combined action of fire and water that it was not deemed advisable to re-use them in the new structure. A considerable time was occupied in removing the *débris* and salvage. Amongst the latter were hundreds of tons of lead and glass fused into one common mass.

Tenders having been invited for the new building forming the subject of our illustration, that of Messrs. Browne & Robinson, for 12,915*l.*, was accepted.

The size of the building necessitated its division into two parts, so that the requirements of the Building Act might be complied with as regards the cubical contents of the buildings. A court-yard, 45 ft. long by 30 ft. wide, to which access is afforded by a gateway in front, serves the double purpose of forming the necessary division of the buildings, and of loading and unloading goods without inconvenience to foot passengers in the street.

A noticeable feature in the construction is the massive character of the foundations and floors to bear the enormous weights that will be placed upon them. This is especially the case with the ground floor of the back warehouse, designed to receive the lead kept in store, which has been constructed of rolled iron joists and girders, calculated to bear a working load of 10 cwt. on every foot superficial. The ironwork in these joists and girders, and throughout the building, was supplied by Messrs. W. & T. Phillips, of the Coal Exchange. The loading and unloading will be performed by means of steam-cranes supplied by the Newington Ironworks Company, the steam being generated by gas.

The front is composed of Portland stone and white Suffolk brick, the bases of the piers and the columns of the centre windows being of polished Aberdeen granite from the quarries of Messrs. Manuelle; the carving being entrusted to Mr. Seale. The whole has been executed from the designs and under the able superintendence of Mr. Lewis H. Isaacs, architect, Gray's-inn. Mr. Boulden acted as clerk of the works.

THE NEW ROOMS OF THE ROYAL ACADEMY.

As the new galleries and schools of the Royal Academy are fast approaching completion, our readers will be glad to know their arrangement and the precise accommodation they will afford. We therefore give plans showing the two floors. The buildings have been erected from the designs and under the superintendence of Mr. Sydney Smirke, R.A., and consist of a large oblong block, parallel with Burlington House, and separated from it only by a few feet, but extending on both sides considerably beyond its frontage.

The exhibition-rooms are on the first-floor, and are divided into three lines or rows; five, each, in the north and south rows, and four in the middle. The central room is a domed octagonal sculpture-saloon. Occupying the whole space westward of this is the "Great Room," where the annual dinner will be given. Eastward of the central saloon is a lecture-hall; the remaining space eastward affords a room intended for water-colour drawings, and the gallery south of that will be set apart for architectural drawings.

All the exhibition-rooms communicate with each other, and the circulation is complete.

These are the precise dimensions of the apartments:—

	Ft.		Ft.
The Picture Gallery at top of stairs ...	43	by	31
Central Sculpture Saloon, diameter ...	43		
Sculpture Room	43	,,	32½
North Picture Galleries, each	40	,,	32½
The Great Room	82	,,	43
Water-colour Room	43	,,	26
Architectural Room	40	,,	31
South Picture Galleries, each	40	,,	31
Hall for distribution of prizes, and for lectures	55	,,	43

The floors are fireproof, being laid on brick vaulting throughout; they are covered with Arrowsmith's solid *parquet* work of wainscot and walnut wood. The doors and their dressings are of the same materials, with the mouldings carved, except at nine of the principal doorways, where they are of marble of various colours, chiefly from Belgium and the Pyrenees. The ceilings are for the most part coved, having the enrichments gilt. The walls of the picture-galleries are being finished of a deep, subdued red (with a sanded pattern), down to a dado of black wood and walnut. The choice rested between this and "pheasant's egg" colour.

The octagonal vestibule will be for the larger works of sculpture, and the upper part of the walls will be ornamented with busts of the most eminent artists of past times.

The ceiling decorations of the Great Room are somewhat more elaborate than those of other apartments, and include a series of demi-angels, holding emblems, as corbels. The lighting is by means of a large central skylight in each gallery, excepting the sculpture-room, where there is a side light.

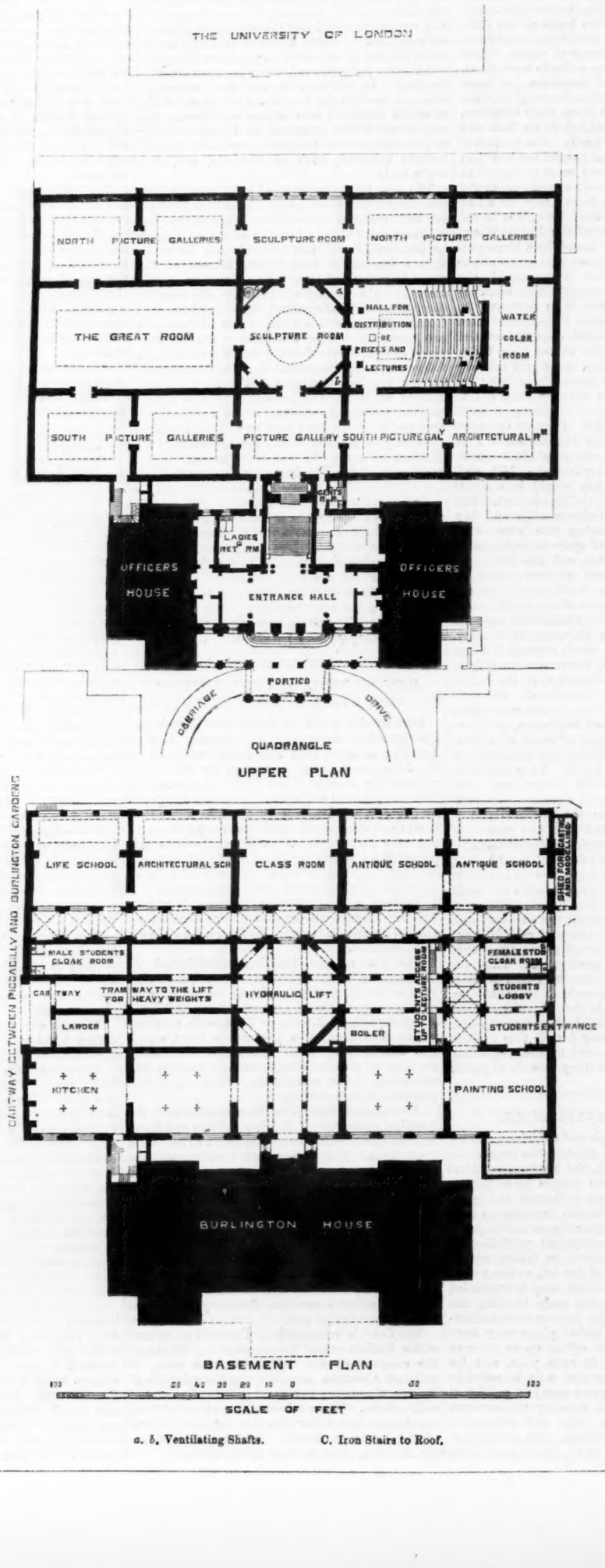
The height of the walls in the Great Room to top of cornice is 27 ft.; the cove occupies 11 ft., making the height to the underside of lantern 38 ft. In the lesser rooms, the height to the top of the cornice is 22 ft., and the cove occupies 9 ft.

We may add that the galleries promise to form a very handsome and well-lighted range. The central saloon will probably be less light.

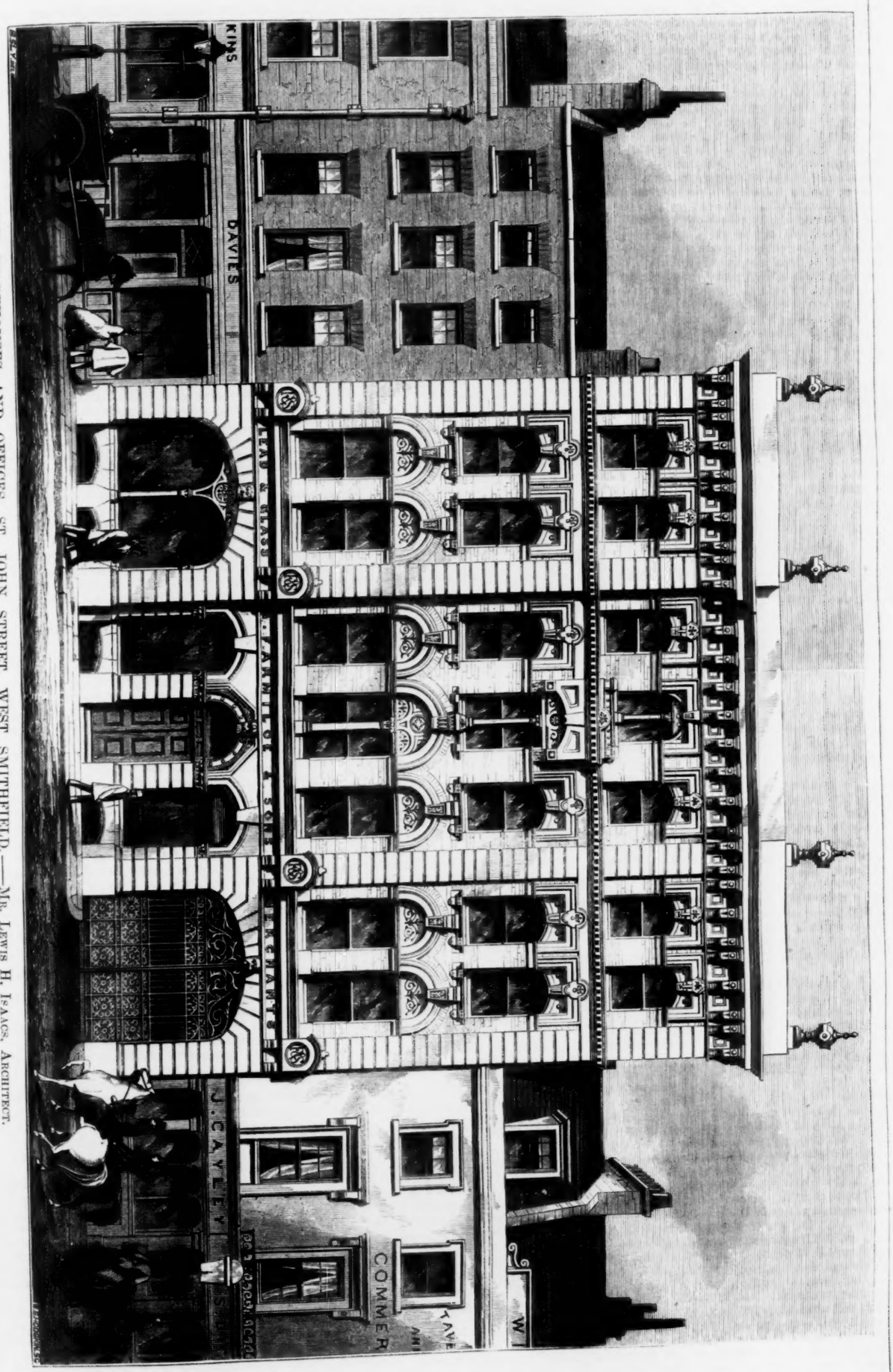
The schools are very spacious and airy, being 19 ft. high. Their appropriation is shown on the plan. The corridors, 10 ft. wide, are lined with white glazed tiles. The male and female students have separate apartments, of ample size. The whole of the schools, as well as the exhibition galleries, are warmed by Messrs. Haden's warm-water apparatus, the channels for warm air being rendered available for the introduction of cool air in summer. The access for the students will be from the Burlington Gardens entrance, where also all works for exhibition will be received. The general contractors are Messrs. Jackson & Shaw, and the decorations are being executed by Mr. Leonard Collmann, in his usual good manner.

The foundations are being put in for the houses of the Learned Societies, next Piccadilly, and along the east and west sides of the quadrangle, under the direction of Messrs. Banks & Barry. Until these buildings are up, visitors to the Academy who ride will set down in Piccadilly, and proceed by a temporary corridor, now nearly completed, right across the quadrangle to the entrance-hall of Burlington House, where ultimately will be a carriage portico, as shown on our plan.

THE ROYAL ACADEMY, BURLINGTON HOUSE, PICCADILLY.—MR. SYDNEY SMIRKE, R.A., ARCHITECT.



a, *b*, Ventilating Shafts. C. Iron Stairs to Roof.



NEW WAREHOUSES AND OFFICES, ST. JOHN STREET, WEST SMITHFIELD.—MR. LEWIS H. ISAACS, ARCHITECT.

THE "SOUTH KENSINGTON MUSEUM."

SIR,—You have doubtless observed that the *Athenæum* of Jan. 16 followed the *Builder's* "lead" of the previous week, in protesting against the uselessly long name of the South Kensington Museum. Unlike the *Builder*, it does not suggest a substitute, but contents itself with saying the title is "much too long, even for a museum; it is fast becoming known as 'the S. K. M.,' which is at least briefer." Now I, who originated the printed objection to the lengthy appellation, protested most strongly against the S. K. M. [M I L K] abbreviation, and suggested "The Art-Museum" as a substitute; but it has been represented to me that this definition is scarcely appropriate, as it would be ignoring the grand collection possessed by the British Museum of the highest of all art, so far as sculpture is concerned; and to this I may add, ignoring also the collection of highest pictorial art contained in the National Gallery.

It thus becomes a necessity to find some other name for *our* Museum which shall, if possible, be perfectly appropriate, and shall be acceptable to everybody. To meet this necessity, I would propose that her Majesty's permission should be sought to allow it to be called after her beloved consort, "The Albert Museum."

When we remember that it grew out of the '51 Exhibition, which was fostered, promoted, and brought into being by Prince Albert, and could not possibly have been carried through successfully without him; that *he* administered the electric spark which has vivified industrial art in England; and that the art-collection at South Kensington was his own idea, and was continually watched over and benefited by his good taste and wise counsels, besides being materially augmented by his generous donations; when, I say, we remember all this, it seems marvellous that the suggestion has never occurred to any one connected with the Museum to call it after the name of its producer and benefactor. I think this little act of grateful, though tardy, justice could scarcely fail to be agreeable to our Queen, and perhaps even she might feel willing personally to bestow upon her dear husband's foster-child, the name that is revered and beloved by all her subjects as well as by herself. Should this suggestion meet with her Majesty's approval, some little "state and ceremony" would of course be arranged, so as to do honour to the occasion and make the day a notable one; and if it could be set apart as a holiday for the people, this would the better carry out the wishes of "Albert the Good," whose desire it was to make this museum peculiarly the people's museum.

If, then, in future, we should be allowed to call our Museum by such a familiar and household name as "The Albert Museum," this title will get rid of all difficulties: it will be short, euphonious, and pleasant on our lips; will not derogate from other collections of art; and will deliver us from the confusion that arises, especially with country-people and foreigners, between Kensington proper and South Kensington, which latter is really Brompton.

When last I sent you a few "notes" on the loan portion of the Museum, I described the beautiful mosaic table lent by Mrs. Hope. This is no longer to be found where it then stood; during some alterations it has been moved elsewhere, whether to return or not remains to be proved. Another extremely interesting object has also gone: the International Volunteer Trophy. As I have seen no description of this in print, it would be well here to preserve its memory, lest it should not again be publicly exhibited.

The size of the trophy I should judge to be 6 ft. long by 1 ft. 6 in. wide, and 3 ft., or 3 ft. 6 in. high. It is of silver, frosted, and only sparingly burnished in parts; and it was designed by A. Willms, and executed by Elkington. It is, as your readers doubtless know, held for a year by that nation whose representatives have been most successful in rifle-shooting.

A short wide pedestal supports a column, on each side of which stands a well-modelled statuette, about 1 ft. high: one in Scotch dress, the other clad as an English officer of volunteers; and on the summit of the column stands Patriotism holding a torch and crowns. Beneath his feet, and round the top of the column, runs the motto, "*Amor Patriæ*." "Defence, not Defiance," is the admirably appropriate legend beneath one of the statuettes; while under the other is inscribed, "*Si vis pacem para bellum*." These subjects, with grouped flags, &c., form the centre of the trophy. At the base of the large pedestal are placed four groups of a mother and child. For the sake of explanation, we must designate one portion of the trophy as the War, and the other as the Peace, end. The grouped figures on the War end, then, represent a mother embracing her eager little son, who brandishes his father's sword, and struggles to free himself from her detaining arms; in the other group, the child has returned with the sword broken, and with big tears coursing down his mournful visage, while the mother encircles him with one arm, and hides her bowed face with the other hand. Immediately in front of these figures is placed a chariot—the classic biga—erect in which stands a young warrior, with a firm sad expression on his beautiful features. He holds a sword aloft in his right hand, and his long robes flow in most graceful folds on to the floor of the chariot. The chariot-wheels have a gorgon's head for the nave, and the spokes are wreathed with oak and laurel; garlands of the same, form the harness of the horses, which are led by a small child, who, in spite of his brave helmet, seems ready to burst into tears, as if he knew he had done wrong, and felt he deserved the chastisement which was about to descend upon him.

On the Peace end of the trophy, a female figure and child in one of the groups amass fruits and vegetables; and in the other, note down on tablets the gains of Commerce. In front of them, Peace, crowned with flowers, stands erect in her chariot, which is drawn by two fat, sleek oxen, garlanded with flowers, olive-branches, &c., and led by a smiling little urchin, also garlanded with flowers. The naves of the wheels are formed of bosses of fruits, while a wreath of hops and flowers decorates the spokes.

Two more figures of boys, seated one on each side of the base of the pedestal, bear, the one a telescope and the other recording tablets. These subjects are placed midway between Peace and War, they being applicable to both states.

After this description, it is needless to speak of the thoughtfulness, care, and artistic skill that have been brought to bear upon the design and execution of this Volunteer trophy: it is a very excellent work, and well repays patient examination.

To return to the noble collection of art-objects lent by Mrs. Hope. The large plaque of Limoges enamel—supposed to be by Leonard Limousin himself, date about 1550—containing six acrobats piled together in one group, is a marvellously fine thing. Other grand objects are, the "Cistern on three feet," majolica di Urbino, sixteenth century; and a large vase, about 2 ft. high, of French earthenware, Palissy style, seventeenth century. Two carved jade vases, with perforated covers, are also very handsome; and the large fluted tazza of jade, supported on a delicate silver stand of European manufacture, formed of twelve mermaids and interwoven cords, is very beautiful and graceful. There are likewise some fine dishes and plates, enamelled in colours; some admirable majolica dishes; a beautiful, rich-looking majolica jug; two specimens of Henri Deux ware; and one very charming plate—or saucer, for the centre is a deep hole, as if to take the cup—the design on which consists of five little boys, one with the prettiest face imaginable, playing at leap-frog, the colouring of the whole being the most tender and delicate I have ever seen in majolica.

At the back of this case is placed the elliptic jewel of white enamel, bearing the "bloody hand" of Ulster, the only known badge extant of the Order of Baronets. The jewel is set round with large precious stones of various colours, ruby, emerald, and diamond alternately. It is of British workmanship, date 1664, and is lent by Sir George Duckett, bart.

A beautiful Biberon of Faience d'Oiron (Henri Deux ware), date 1530 or 1540, lent by Mr. J. Malcolm, of Paltalloch, has a singular hinged cover of the same material that is worthy of notice; and, because they are placed near at hand, I will here mention the sugar-bowl, cover and spoon of white earthenware and good form, lent by Miss Dale, probably of Leeds manufacture, and also the butter-boat, salt-glazed Staffordshire ware, lent by Professor Church. The hunting group, in white porcelain, from the manufacture of the Duc d'Angoulême, is spirited and graceful; date about 1780. Not far off is a snuff-box, lent by Mr. Beresford Hope, formed of beautiful slabs of "lumachelli," which I take to be matrix of opal; and there is a fine one of spar, inlaid with houses and trees in hard stones; a gold snuff-box, containing the freedom of the City, with the City arms enamelled on the lid, presented in 1811 to Lieut.-General Sir W. C. Beresford; and from the same collection comes the flattened oval sardonyx ewer, mounted in gold, enamelled and jewelled, ornamented with graceful little enamelled figures, and having a wonderful dragon for handle.

In the adjoining glass-case is still to be seen the extremely interesting, and minutely carved, violin of boxwood, given by Queen Elizabeth to the Earl of Leicester. Its date is about 1330 to 1340, so it must have been a curiosity in Elizabeth's time; and we may well suppose it to have figured as one of those costly New Year's gifts which the Queen was so fond of receiving and bestowing. Possibly this violin was given by her to Leicester, in return for the rich present he made her on the New Year's-day of 1571-2—namely, "one armlet, or shakell of gold, all over fairely garnished with rubyes and dyamondes, haveing in the closing thereof a clocke, and in the fore part of the same a fayre lozengie dyamonde without a foyle, hanging thereat a round juell fully garnished with dyamondes, and perle pendant weying 11 oz. qu. dim., and farthinge golde weight: in a case of purple vellate, all over embranderid with Venice gold, and lynde with greene vellat."

Supposing the violin to have been the choice return-gift for this sumptuous bracelet of 1571-2, the "additions" to it in 1579 may have been made by Leicester's order to suit his own fancy; and probably at the same time the shields bearing his arms, and those of the Queen, were placed on the finger-board. It is lent by the Earl of Warwick . . . . And here I must close my "Notes" for the present. ART-LOVER.

THE DUBLIN SCHOOL OF ART.

THE distribution of medals and prizes to the students of the Dublin School of Art took place in the theatre of the Royal Dublin Society on the evening of Thursday, the 28th ult., his Excellency Earl Spencer presiding. Lord Strathnairn, the Commander of the forces in Ireland, the Lord Mayor, the Lord Chancellor, and many other distinguished persons were present.

Mr. George Woods Mansell opened the proceedings, and explained to his Excellency that the Dublin School of Art stood first, considering the number of national awards in proportion to the number of students, of all the schools in the United Kingdom.

Lieut.-Col. Adamson, the President of the Fine Arts Department, alluded to the difficulty which the artisan classes of Ireland had in finding time and means to proceed to South Kensington, and under these circumstances he considered that a small museum of ornamental art should be established in connexion with the Dublin School. Col. Adamson then read the report of the Committee of Fine Arts. The attendance of students during the year 1868 has been 519, showing an increase of 87 over the year 1867. Eleven national awards were gained, including one of the two Princess of Wales's scholarships.

The President then distributed the awards to the students, who were introduced to him by Mr. Lyne, the head-master of the school.

Lord Clancarty proposed a vote of thanks to the Lord-Lieutenant and to Lady Spencer, for their kindness in attending on so interesting an occasion, which was seconded by the Lord Mayor.

His Excellency made a long and very able speech. He expressed the gratification he felt in hearing the report of the Chairman of the Fine Arts Committee, and congratulated the society that the head-master of their schools, Mr. Edwin Lyne, had gained a second place amongst the art-teachers of all England for the success of his instruction. Lord Spencer then said:—I do not feel that I have any right to enter largely upon the subject of art, but I feel bound to make one or two observations, which I do with great diffidence. I think it is very often not appreciated how great a power art has on the history of the country,—I mean in recording the deeds of our countrymen, and the noble acts which they do for the benefit of their country. I believe that art, peculiarly the art of painting and sculpture, takes a great part in educating one generation as to the deeds of another. I believe that in Great Britain, at this time, we have made very great strides towards the improvement of the fine arts, and the part

which Ireland is to play in promoting the fine arts of Great Britain is by no means a small one; for I believe that it belongs to this people to be eminently artistic. I believe that there are qualities belonging to the Irish people which are singularly propitious to the development of high art. We have the poetic imagination, which is so well known to exist among your people; we have that warm-heartedness without which, I hold, true art cannot be maintained, for without it you have not proper sympathies with all the different relations of life. You have the love of the beautiful very strongly developed among your people. It is, then, a noble work, which I feel sure this society will nobly carry out—the development of the artistic feeling among the Irish people.

It is the duty of societies like this to properly cultivate taste among all classes. Let them not pander to the public taste. Let them not be led into pandering to mawkish sentimentality or sensational excitement, but let them try to immortalize the great deeds that have been and still can be done in this country, and then they will do a great work worthy of their country.

One thing more I will say, and that is, that I should wish to see a taste for the fine arts permeate the whole country. A taste for the fine arts, in other words, is a taste for what is correct. In old days, in Italy, nearly everything that was used in daily life was remarkable for some beauty, either of form or of colour. Why should not this be so in our days? Why should we not cultivate taste in such a way that everything about us, whether the architecture of our houses, our carriages, our furniture, our crockery, our dress even, should be governed by the excellence of taste? I believe there is nothing that will develope and spread itself so much as good taste; and there is no knowing what pleasure it gives to those who would have everything about them in good taste.

GRAINING FROM THE NATURAL SURFACE OF WOODS.

At the close of the paper on this subject, read by Mr. Dean at the Society of Arts, and printed in our last,*

The Chairman (Mr. Godwin), in inviting discussion, remarked that the mention which had been made of Mr. Herbert Minton and Mr. Hullmandel must have brought to the minds of many present the remembrance of what immense progress had been made within the last thirty or thirty-five years in many of the useful arts. At the period alluded to in the paper, chromolithographs were unknown, at least in England, and encaustic tiles were not in use, whilst the large trade in both these articles was now patent to everybody. Still, there was much room for further development, especially in the matter of encaustic tiles, which were, he had almost said, shamefully expensive in many cases: and were the price reduced, their use would be largely increased. These things, however, were not the only matters in which great progress had been made during the period he had named, and, although their country was often spoken of as Old England, she might be regarded as still in her youth, so far as progress was concerned. They had only had a Royal Academy for about a hundred years, and steam-engines, railways, and the electric telegraph had been introduced within the memory of most persons present. Coming more immediately to the subject of the evening, he must beg leave to take exception to the name that had been given to the process described; for "xylography" (*xylon* wood, and *grapho* I engrave) meant wood-engraving, as any dictionary would show. He would suggest Wood-Printing as a more appropriate term. He had no great love for graining himself, although he did not go quite the length of some who abominated it as a sham. Graining, under some circumstances, was no doubt defensible, but the inexcusable character of some shams which had been put forward had had the effect of inducing many men who were anxious to associate architecture only with what was noble and honest, to set their faces against all imitations whatever. Putting aside that consideration, and looking at the matter commercially, it appeared to him that this new process had advantages, not the least of which was that it would have, he hoped, the effect of banishing that wretched apology for graining which sometimes was seen disfiguring and disgracing people's houses. He should like to hear from Mr. Dean whether the closer-grained woods could be printed from in this manner, as the majority of the specimens appeared to be oak; and he was not certain whether mahogany, rosewood, and the harder woods could be imitated. He should also like to know whether the paper from which the impression was produced must be taken from the original on the spot, or whether it could be taken by workmen at a distance; and he did not understand whether the specified times within which a given quantity of work had been done included the printing of the paper, or only the transferring of the impression to the wood. Mr. Dean had just handed him a specimen of imitated baywood, which was certainly commendable, as there was a quietness and modesty about it not always seen in grained work.

Mr. J. Blore (taking from the table a tile with a wood pattern upon it) could not quite see the advantage of manufacturing tiles in imitation of wood, though the invention was very ingenious, and would, no doubt, prove exceedingly useful. He would also like to know whether the durability of this system for external work had been tried.

The Chairman observed that this would probably depend on the varnish, and that there seemed nothing in the process itself which would make it differ in this respect from other graining. He thought making the tiles look like wood quite indefensible.

Mr. Bottomley said the process of printing from the grain of wood on paper was not new, as it had been in use some time by the French for paperhangings, which had been imported into this country rather extensively during the last few years.

Mr. Morant inquired whether the graining was applied to the wood direct, or whether a "ground" had first to be prepared.

Mr. Bottomley said, in correction of one statement in Mr. Dean's paper, that the best oak graining was now not done in distemper, but always in oil; the inferior work was done in spirit.

Mr. John Land said the process had been mentioned as being more durable than ordinary graining; but he saw nothing in it to render the effect more lasting than graining in oil. He saw nothing in the specimens exhibited beyond what he had seen produced on paper in distemper, which, when applied to woodwork and varnished, had exactly the same appearance. He should have liked to see more variety in the specimens, and did not doubt but that many other kinds of wood could be imitated. He begged leave to call Mr. Dean's attention to the beautiful specimens of wood in the museum at Kew, some of which would be very difficult indeed to imitate by hand, and, therefore, if they could be copied by this process, there would be a real advantage in it. At present they were confined to two or three descriptions of wood for interior work in houses owing to the difficulty of imitating others, which, in some cases, would no doubt render the copy as costly as the original; therefore, if some of these beautiful woods, both English and foreign, could be imitated at a reasonable cost by this process, decorators would have their means of ornamentation much extended. He understood from Mr. Dean that the cost of his process was about a shilling per yard.

Mr. Laing said he had had an opportunity of inspecting the specimens by daylight, and was very much pleased with them: one feature about the work which had struck him particularly was, that the mouldings were as elaborately finished as the plain work, which was not the case with graining done by hand, where mouldings and such like parts were simply run down with the comb. Of course, the men being paid by the piece, their object was to get through as much work as possible in the time, and the more difficult parts, such as mouldings, were accordingly done just so as to pass muster. In the specimens exhibited, however, one part was as good as another. It had struck him that the light and dark specimens were clearer and more distinct than the intermediate shades. To his mind, the great advantage of this process was that graining of first-rate quality could now be executed in the provinces, where it was at present difficult, if not impossible, to obtain the requisite skilled workmen to do it by hand, and thus many country houses would now be decorated in this way where, hitherto, such a thing would have been out of the question.

Mr. Yardley thought there were one or two inaccuracies in the paper which he should like to correct. It was said that there was a reluctance on the part of architects to employ graining, on account of the bad manner in which it was often done; but, he believed, the real reason was the desire, which had been alluded to by the chairman, to avoid everything in the nature of a sham, and also the question of expense. It was much cheaper to stain deal, which, in many cases, showed a very beautiful grain through the stain, than to have it painted and grained. He should like to know whether Mr. Dean's process was applied to the wood plain, or whether it required painting first, because, of course, if the latter were the case the cost would be increased. Mr. Dean had spoken of 2s. and 2s. 6d. a yard being paid for graining, but he had never known more than 2s. or 2s. 3d. being allowed by an architect, including the preliminary painting, and two coats of varnish afterwards. He should like to know whether the process was applicable to delicate woods, such as bird's-eye maple and satin wood.

Mr. Miller asked if the process could be applied in imitation of parquet flooring, and if so, at what expense?

Mr. Dean, in replying to the questions which had been put, referred first to that put by the chairman as to the transfer of hard woods. A specimen of bay wood was on the table, and there were also specimens of Hungarian ash; and bird's-eye maple was in process of trial. The fact was, however, that he had not as yet been able fully to experiment on many of these kinds of wood, from being engaged in carrying out his patent commercially, and also from the difficulty which was experienced in getting suitable specimens of wood with which to experiment. He thought the question as to the applicability of the process to encaustic tiles had been made sufficiently evident by reference to the case of Mr. Robson, of Liverpool, who had used nearly 1,000 yards of tiles embellished in this manner in the dados and staircases of the new public offices. Mr. Bottomley had stated quite correctly that for some years past the French had transferred the natural grain of wood to paper for paperhangings, but they had not gone beyond that; whereas he had succeeded in re-transferring the impression from the paper to either a painted or plain deal surface, the latter being specially applicable for churches. He had carefully examined the many beautiful specimens of woods in the museum at Kew, and he had not the smallest doubt that very many of them could be successfully employed in this process; but experiments would have to be made, which would take some little time. He had had great difficulty in procuring specimens of bird's-eye maple and Hungarian ash suitable for his purpose. These difficulties would no doubt vanish by degrees, but still they were sufficient to show that time was required for the perfecting and development of the invention. At Bradford, in Yorkshire, while in conversation with one of the principal painters and decorators, it was suggested to him that his system would be very useful to men who were not in a position to employ first-rate grainers; his reply to that was, that in a week he could put these second and third-rate men in a position to compete with, if not to surpass, those who employed the best grainers money could procure. As to the price, he had given pretty full details in the paper, and he would add that Mr. Crossley, of Newark, had told him he had paid as much as 5s. a yard for graining alone. He did not think the system was applicable to parquet flooring, for floors were intended to be walked upon, and however good might be the varnish the pattern must be rubbed out in a comparatively short space of time. The encaustic tiles in imitation of parquetry had, however, been used to a considerable extent, and for the borders of rooms appeared particularly applicable. It was only right, however, to say that many persons had taken exception to the application of the process to tiles, and he had for this reason mentioned its employment by Mr. Robson, at Liverpool, where it had been considered very successful.

The Chairman then moved a vote of thanks to Mr. Dean, which was carried unanimously.

* See p. 81, *ante*.

The Discovery of the Guildford Castle Vaults.—With respect to this discovery, the *Surrey Advertiser* states that a petition has been extensively signed in Guildford to Lord Grantley, the owner of the property, asking his lordship's permission to prosecute the excavations.

THE WORKMEN'S INTERNATIONAL EXHIBITION.

A PUBLIC meeting has been held in the Town-hall, Tunbridge Wells, in support of the scheme for holding this exhibition. The Hon. F. G. Molyneux occupied the chair. There was a good attendance of working men.

Mr. Buckmaster, who was present, said that Tunbridge Wells was a very celebrated place more than 100 years ago, when Dr. Johnson drank twenty-seven cups of tea with Mrs. Thrale on the promenade. Every place and every trade has its traditions, but the story of the Tunbridge ware is not very romantic. An Italian refugee, wrecked on the Sussex coast about 100 years ago, made his way to Tunbridge Wells, and there started a trade, which was at that time unknown in England. The work, chiefly in rough mosaic, and much inferior to what we see now, excited great curiosity. The Italian had a monopoly of the trade; he kept the secret to himself, and became wealthy. At last some enterprising man, tempted by the success of the Italian refugee, who was reputed to be rich, climbed to the top of his workshop, took off a tile, and watched the process from beginning to end, and from that time there was free trade in Tunbridge ware. We want you to help with your Tunbridge ware and any other productions, the result either of your skill or invention, or both. And what is the object of all this? It is to make a man feel that there is something noble in labour; to cultivate between the workmen of different countries feelings of goodwill and kindly brotherhood; to encourage good work, and revive the honest pride and feeling of bygone times. I have seen in common clay a jug made by a potter, years ago, with this inscription, ornamented with birds and flowers: "To my sweetheart, Jane Wilson. Made by my own hands.—George Brown." The writing was the worst part of the work. There must have been a pride and a pleasure of which we know but little when Quentin Matsys looked upon the ironwork made with his own hands. Most working men endeavour to make something. We want to get this work together; the success of our efforts will depend mainly on the working men themselves. They have their full share in the management, and we mean that the credit of good work shall be given to those who deserve it.

MUNICIPAL GOVERNMENT OF THE METROPOLIS.

THE daily papers have made widely known that the Home Secretary, Mr. Bruce, gave a deputation of the Metropolitan Municipal Association, who went to him last week, full assurance that the Government are disposed to aid them in their endeavours to obtain a better form of government for the metropolis. This Association has been established for the purpose of collecting facts and statistics in relation to the present local government of the metropolis, and for diffusing the information so collected by means of public meetings, lectures, and through the public press; and further, to promote by every available means the attainment of a Legislative enactment that will secure a more direct and thorough municipal representation of the ratepayers, and a more responsible, efficient, and economical form of government for the metropolis. All who feel the importance of this improvement should join it. Mr. James Beal, of 209, Piccadilly, is the Hon. Secretary.

HALIFAX.

A VERY important work has just been commenced here—the constructing of a new road to connect the borough of Halifax with the adjoining township of Southowram, and to be called Southoram-road. The road is over a mile in length (including a side branch), and is 30 ft. wide between the walls. It winds along the side of Beacon-hill, whose natural slope is an incline of 1 to 1½, and is supported on the lower side by a dry retaining wall, topped with a 4 ft. 6 in. fence wall, the higher side having a fence wall only, and the ground above cut down to a slope of 1 to 1. The height of the retaining wall, in some places, is over 40 ft. There is an earthenware pipe drain from end to end, commencing at 2 ft. diameter, and tapering to 12 in. The road rises 244 ft. in its entire length, its steepest gradient being 1 in 15½, and is intended to replace the existing road to Southowram, which is an incline of 1 in 6, and not at all adapted for the immense amount of stone traffic that runs over it. Some idea of the magnitude of the work may be gathered from the quantities, there being over 50,000 cubic yards of excavation, and 15,000 cubic yards of stone in retaining and fence walls. The total quantity of stone used will be considerably over 20,000 cubic yards.

It is expected that this road will open out a great tract of cheap building ground, as it goes over what is now nothing more than a barren waste.

The contract is let to Messrs. Chapman & Shaw, for the sum of 8,200*l.*, and is to be completed in eighteen months. Mr. Henry Alty is the engineer appointed by the Halifax corporation to carry out the works.

THE THAMES EMBANKMENT AND THE LAW COURTS.

SIR,—I stated at the Metropolitan Board of Works that it is not possible to place Mr. Street's building, as now designed, on Sir C. Trevelyan's site on the Thames Embankment, inasmuch as the latter is too small by about 40,000 ft. A few figures will show this. Mr. Street's plan at the Institute is 740 ft. by 500 ft., which dimensions give 370,000 square feet. Sir Charles Trevelyan's site is bounded by the Strand on the north, the Temple on the east, the Embankment on the south, and King's College on the west. Allowing for streets for light and air on the east and west sides, this plot is as nearly as possible 660 ft. by 500 ft., or 330,000 square feet, and is, therefore, as I stated at the Board of Works, too small by 40,000 ft., for Mr. Street's present plan, to say nothing of any future extension of it. It is, however, more than sufficient for either the courts or the offices, in a separate building, according to my proposal. I have taken all my dimensions from official plans, and cannot understand Sir Charles's assertion that his site, exclusive of King's College, and without including any portion of the embankment, contains 446,500 superficial feet.

WILLIAM TITE.

THE COLISEUM, LONDON.

SIR,—Can you inform me where I can find any description of the Coliseum in the Regent's Park, with plans and sections of the building? * I am sorry to see that it is to be pulled down. Could it not be saved? It seems to me extraordinary that while this building is available, we should be erecting a very similar one at South Kensington for a purpose for which, if we are to put the slightest faith in the laws of Acoustics, it must be very ill-adapted. However, there must be many purposes to which the Coliseum building would be very suitable, and for which I trust to see it yet preserved. In these anti-Ritualistic days, why should it not be converted into a church? Its great prototype, the Pantheon at Rome, is so used, and Fergusson, in his Handbook, affirms that it is well adapted for the purpose. Neither of the buildings is cruciform in plan, but the light from above would satisfy the lovers of symbolism. Again, there is a great want of a really public library in London. Could a building be obtained, there are hundreds of men in London who would come forward with donations of money and books to stock it, and we should no longer bear the reproach of being behind the other great cities of Europe and America in possessing no free library in London. You have done so much for the working man in London in sanitary matters, help him in this too.

J. B. *Major.*

THE FAILURE OF STONE.

I BELIEVE if the decayed stones in a building were carefully examined a large majority would prove to be face-bedded; yet some good judges tell us that in Portland, Bath, Granite, and some others, it does not matter whether the stone fixed in work is face-bedded or not. I think the contrary might easily be proved, as stone laid on its natural bed, "with its teeth out"—to use a quarry phrase—presents a greater resistance to the effects of wind and weather, than when laid in any other position.

In addition to stone being laid on its natural bed, I think it ought to be well seasoned, for even our worst stones when well seasoned will stand for a long time before exhibiting any signs of decay, and a careful observer will find in buildings recently erected stones perishing, but after a time the decay is arrested, as it were, by some invisible agency, more particularly so in Portland and Ancaster stone. This is nature throwing out a coating or weathering to the surface.

This coating is most remarkable in the Ancaster stone, as many builders know to their cost who neglect the cleaning-down of buildings till it is formed.

In this age of steam we quarry by steam, we convey by steam, we saw and work by steam—I had almost said we fix by steam—so that the stone has no time to get rid of the quarry sap. To season stone we require some such desiccating process as that to which timber is subjected. Thus, although the stone quarried in the present day is as good as at any former period, the continual outcry is—"There is no good stone to be had now."

What I say is this—When we have made choice of the stone to be used, select the best of that kind, season it well, have a properly-cleansed surface before it leaves the banker, set it on its natural or quarry bed, and we may defy the influence of London smoke or soot; but I hope we shall see many more articles on this subject in your valuable journal, as, in the multitude of counsel there is wisdom. D. H. R.

* "Public Buildings of London." By Britton & Pugin.—ED.

INAUGURATION OF THE WALSALL AGRICULTURAL HALL.

THIS edifice has been inaugurated by a concert in aid of the Walsall Cottage Hospital. The building, which was designed by Mr. G. B. Nichols, West Bromwich, architect, has been erected by Messrs. Trow & Sons, of Wednesbury, contractors. It provides a hall 80 ft. by 50 ft., with a spacious vestibule entrance, on each side of which, on the ground floor, are placed the settling-rooms, forming arched recesses, which may be used as refreshment-rooms or for other general purposes, over which are placed retiring-rooms for ladies and gentlemen, divided by an arched lobby, arranged to overlook the whole of the hall. There is a stage at the end of the hall, 36 ft. wide by 31 ft. deep, with a platform in front, the stage being recessed by an archway of 21 ft. span, and 21 ft. 6 in. high, on each side of which are lobbies fitted up with water-closets, lavatories, &c., and dressing-rooms for performers. The basement provides an extensive area of vaults, adapted for letting off for storage. The doorway is the chief feature of the front of the edifice, and is executed in Bath stone, having double pilasters, with carved capitals, raised on a moulded pedestal, with a moulded lintel, supported with light ornamental cast-iron columns, and having a plain frieze and cornice, surmounted with a deep blocking course for a large semi-circular window, which lights the gallery lobby. This is the only noticeable feature of stonework in the building, the other portion of the front being executed in red brickwork, the detail being simply worked out with moulded bricks, slightly relieved with bands of white bricks. The style of the building is bordering on Italian. The roof being the chief feature, is constructed of timber, open internally, in the form of half a hexadecagon, or sixteen-sided polygon, of 50 ft. span, without any tie-rod, the angular portions being relieved with wrought-ironwork. The principals, seven in number, are partly supported on cast-iron columns. The whole of the interior walling is executed in panels of red and white brickwork, ornamentation being obtained by a variety of moulded and perforated bricks and quarries, which perforations afford ventilation. The lighting is effected by means of wrought-iron sky-lights, extending the whole length of the building on either side. The panels of the ceilings, the archways, and the roof-timber are all decorated in distemper, and the ironwork is painted in party colours. The archway forming the stage has been fitted up with a proscenium border; and a painted act-drop, by Messrs. Day & Watson, of Birmingham, has been hung, representing a harvest landscape. The lighting of the hall by night is by means of fourteen star-light burners, which have been fitted up for the contractors by Messrs. Brown & Chesterton, of Walsall. The red bricks were obtained from the Paddock Works, and the white bricks from the works of the Hednesford Colliery Company.

The heating and ventilation have been carried out by Messrs. Haden & Son, of Trowbridge. The interior decorations have been done by the contractors from the designs and under the special superintendence of the architect.

DWELLINGS FOR THE POOR AND THE NEW LAW COURTS SITE.

SIR,—If the publication of Sir C. Trevelyan's letters in the *Times*, and that powerful journal's advocacy of similar views should prevail, and the Thames Embankment be ultimately selected for the New Courts of Law, might not the site near Carey-street be used for the benefit of that class whose wretched dwellings were cleared away to make room for them? It seems to me that our architects have the genius to cover that vacant space with habitations that would be both ornamental and convenient; and I do not believe the country would grudge the cost (that could not be covered by returns in the shape of rent), of thus supplementing the experiments already made.

But supposing this site cannot be thus utilized, will you, nevertheless, allow me this opportunity to say a word on the general subject of the dwellings of the poor in London. As one walks miles and miles between big uniform houses, evidently adapted only for richer people, would it not be a relief to the eye as well as mind, to see in good positions houses of another kind? I feel confident our architects (and it is because I wish them to see these lines, that I ask you to grant the space for them), could, as occasion offered, build streets for the poor, and at the same time add to, rather than diminish the beauty of the metropolis. Fancy a village without cottages! Why a metropolis without dwellings for the poor, except out of the way, in close courts or dingy back streets? F. F.

DISSENTING CHURCH-BUILDING NEWS.

Landkey.—The new Wesleyan chapel here, erected at a cost of nearly 800*l.*, has been opened for divine worship. The design is in the Middle-Pointed period of Gothic architecture. The plan comprises porch, nave, and an end gallery for the school children. It is built of hammer-dressed Swymbridge stone, with dark bands of Venn stone. The side and end fronts are in hammer-dressed Venn stone. The dressings are in Bath stone. A large five-light window forms the principal feature of the front, with traceried head. Below it, the entrance doorway has pillars with carved Bath stone caps and coloured shafts of Marwood Hill stone. The principal feature internally is the open roof. It is divided into five bays, the principals springing from carved circles in Gammon's Down stone. It is ceiled to the collar, and the whole is boarded and stained. Provision is made for ventilation by a row of cinque foil piercing in the centre of collar ceiling and of quartrefoil piercings in the cornice. Fresh air is admitted by regulator valves in the sills of windows and in the ground-floor aisle. It is purposed to warm the chapel with one of Musgrave's slow combustion stoves. The open seating in ground floor and gallery is framed with inclined backs, book-boards, and hat-rails complete. The gallery front is projected on cut brackets, and is framed with pierced panel framing. The windows are glazed with obscured glass and green border, leaded. The glazing and staining have been executed by Mr. John Clarke, of Barnstaple. The corona lights, suspended from the sweeps of the roof, were made by Mr. Harper, of Barnstaple. The contractors were Messrs. Pulsford (Barnstaple), Youatt (Swymbridge), and Southwood (Landkey). The works have been carried out according to the plans, and under the superintendence of the architect, Mr. Lander, of Barnstaple.

Barnstaple.—The Wesleyan new chapel here has been opened for divine service. The plan is a parallelogram 70 ft. by 50 ft., and there is a deep gallery round three of the sides. Care has been taken to provide for ready ingress egress to and from the building, the entrance to the galleries being entirely separate. That to the galleries is by two commodious staircases at the higher end of the building, and that to the body of the chapel and the large schoolrooms, at the lower end. A separate staircase entrance is provided for the Sunday-school children. All the doors open outward from the building so as to give the readiest egress in the event of a panic. The style of the edifice is in the fourteenth century period of Gothic architecture. The side of the chapel being towards the street, gave the opportunity of securing an effective façade. The elevation is dependent on the internal plan. It is divided in height by a string-course marking the line of galleries, and the sky-line marking the construction of the roof. For the purpose of ventilation, the roof is divided into nave and transept, and this transept forms the principle feature in the front elevation, rising as a gable to the height of 50 ft. from the street line. In it is a large five-light window with traceried head. In the opposite gable is a proportionate "Alpha and Omega," or wheel-window, of geometric tracery. The entrances are marked with indicated porches, the doorways having pillars with carved capitals and shafts of polished Marwood-hill stone. The arches have mouldings of Early English character. The bays between the porches and transept are filled in with triplet windows accentuated within and without, with pillars having carved caps and bars, and polished shafts of Marwood-hill stone. The heads are filled in with tracery of varied designs. The lower windows are three-light windows, with traceried heads of uniform design. All the arches are in alternate bands of Bath stone and Marwood-hill stone. The cornice is of bold and simple design, formed partly of stone and partly of the ornamental ironwork of the shutes. Some of the members are filled in with carved patera, and the sky-line is formed with running iron ornament. The whole of the front rising from the splayed granite plinth course is in brickwork, faced throughout with Bath freestone. This portion of the work has been executed by Mr. Youings. The roof is an adaptation of the roof timbers of the old chapel. The galleries are carried on coupled cast-iron pillars, with foliated brackets and pierced interlacing panels. These were from the foundry of Mr. Charles S. Willshire. They are painted a brown colour, the brackets and caps picked out with gold. The gallery fronts are of pierced panel framing, carried out in brackets from the beams, with cornice and architrave moulding. Extraction pipes are laid throughout under the galleries, which lead to openings over the gas coronas, and at each end to an opening in the outer wall. Pipes for the ingress of fresh air supplied with regulator valves throughout are brought under the aisles of the ground floor, in the steps of gallery floors, and in the soil-boards of the windows. The lighting of the chapel is by a large quatrefoil corona with clustered lights, hung from the large ventilator in the centre of the nave and transept of roof. On the ground-floor are seven four-light coronas, hung from ventilator in the centre of the gallery ceiling. The whole are painted blue, picked out with gold. The whole of these are from the designs of the architect, and the workmanship of them throughout was done by Mr. Claude Rafarel, the manager of the Barnstaple Gas Works. The contractors were—Mr. Thomas Brown, for the mason's work; Mr. William Youings, for the stone-mason's work; Messrs. Oliver & Son for the carpenter and joiner's work; Mr. William Britton, for the glazier, painter, and stainer's work; the carving, by Mr. Hems; and the polishing, by Mr. Arnold. Mr. Lander, of Barnstaple, was the architect.

SCHOOLS OF ART.

The Birmingham School. — The inaugural meeting of the Students' Art Literature Class has taken place in the Library, Midland Institute. Mr. D. Raimbach (the head master) presided. It was unanimously resolved that the statement of the provisional committee and the draft of the rules be adopted, and that the proposed class for the study of literature will be beneficial to the students of the School of Art. The committee has issued a programme.

The Darlington School.—The annual meeting, *conversazione*, and exhibition in connexion with this school has been held in the Mechanics' Institute, Darlington. The room was enlivened by an exhibition of the students' drawings, together with a collection of photographs, engravings, etchings, and other works of art from the South Kensington Museum. The Secretary (Mr. J. C. Ianson) read the tenth annual report, which said:—

"The committee of the School of Art have much pleasure in reporting that during the last twelve months the school has been carried on with increasing success. The number of students under instruction has been larger than in any previous year, and the number who passed the examination in March also shows a considerable increase. The total number of students under instruction at any time during the year, including both the central school and the North-road branch, has been 178, as compared with 161 in 1866; and out of the 101 who were examined in March last, 58 were successful, and to 13 of these prizes have been awarded for special proficiency.

There were also 17 awards made for drawings in the elementary section, in the shape of payments to the school, and out of these 4 were selected as deserving of prizes. Three works were also selected for national competition, but did not succeed in gaining this higher distinction."

The Kidderminster School.—This school continues to hold on its satisfactory course, and the past year's work excels that of all former ones. The annual meeting was held in the Music Hall, Kidderminster. Sir Digby Wyatt presided. The report was in the following terms:—

"The Committee have again the satisfaction of placing before the subscribers and friends to the institution an excellent report of the condition and progress of the school during the past year. The total number of students who have attended the school during the past twelve months has been 84 (an increase of 16 over the previous year); of this number 74 comprise the evening class, and 10 students the afternoon class. An analysis of the occupations classified out of these 84 persons shows that about two-thirds of the number are designers, who are thus qualifying themselves for advancing the local trade, and are filling or are about to fill important posts in the various carpet works of the town. The examination in the second grade took place in April last, and out of 52 students who were examined 43 were successful. A competition of the works from the London and provincial schools took place at South Kensington in July last, at which this school was eminently successful. One silver medal (out of the twenty medals competed for by 120 schools), one bronze medal, three Queen's prizes, and seven third-grade prizes, making a total of twelve national awards, were obtained by the students of the Kidderminster School. In order to afford a right estimate of the relative position of the Kidderminster School as compared with others at the Competitive National Examination, it should be observed that only three schools obtained more than two Queen's prizes. South Kensington, with its 992 students, obtained three Queen's prizes; Dublin, with 432 students, four Queen's prizes; and Kidderminster, with its 84 students, three Queen's prizes."

COMPETITIONS.

Grantham.—A new Congregational church is about to be erected here. It is to occupy a central and prominent position in the town. A design by Mr. Tait, of Leicester, has been selected in a limited competition.

Hartley Wintney New Church.—We are asked to say, with reference to the competition in this matter, that certain drawings are at present retained as being amongst the five best designs received by the committee; that one of these five, "Fides," is preferred, providing the author can satisfy the committee that his plans can be carried out for the sum named in their instructions; and the other four, namely, "Well Considered," "Fiat Justitia," "Integritate Solâ," "To be or not to be," are retained for further consideration in the event of his failing to do so.

FLAMBOYANT ARCHITECTURE.

AT the Friday evening meeting last week, at the Royal Institution, Mr. John Ruskin delivered a lecture upon "The Flamboyant Architecture of the Valley of the Somme." We avail ourselves of a report of it in the *Telegraph*.

Mr. Ruskin said that he would first explain why he chose "The Flamboyant Architecture of the Valley of the Somme" as the subject of his lecture. Gothic architecture lasted altogether no more than 300 years: it began about A.D. 1200, and expired three centuries later. His object was to inquire why it died out so quickly, whether from any faults of its own, or from other causes. During the three centuries it lasted there were three schools of Gothic architecture. The first was the massive school, wherein the heavy stonework was carved in some simple manner at the edges. Next came the school in which the surface is done away with; the carving becomes important and delicate, and perfectly represents organic forms. In the last school the organic forms are lost, and all the surface is chopped away in an intricate manner. Did the Gothic, then, perish by its own fault or by the faults of others? or was it because no more could be got out of it? or did it give way because other styles were better? To give clear ideas on this subject, he wished to show his hearers something of the very last of Gothic architecture; and the latest he could find in Europe was in the valley of the Somme. The churches here are very numerous, and in the middle of the valley are many which exhibit the Flamboyant, or "flame-like" specimens of the Gothic; for Gothic architecture came to the valley of the Somme to die. It perished before the revival of literature, and before the Reformation, which latter was an entirely illiterate

movement. He wished to impress upon the minds of all present that an artist always leaves the impression of his own mind upon his works, and this as decidedly in architecture as in anything else. A foolish person will build foolishly, and an intelligent man will build sensibly. Therefore, in architecture, the characters of the artists, or of the nation, may be read at any time. When the architecture is too ornamental, the artist was too vain; and when it is too plain, he was stupid, idle, or contemptible. Thus the manners and mind of a nation can be read in its architecture as surely as the presence of a spider's web proves that it was made by a spider. Manufacture is the work of the hands only, but architecture is the work of the spirit. That architecture which is born of valour and honour teaches valour and honour, and its effect upon the nation is invaluable; yet English gentlemen of high standing have denied this principle, and the growth of such ideas has much to do with the decline in English art. . . . Flamboyant architecture is not a granite architecture, like that of Egypt, constructed in a granite age; neither is it a marble architecture, like that of Greece. The Flamboyant is essentially a chalk architecture. The designs are cut deeply upon a soft, cheesy substance, which gives way easily under the chisel, so that the finished design is something like lace upon a black ground; and this is the chief fault of the style. The first style of building (he said) was very simple, and consisted essentially of one stone placed on the top of two others; in later times the Greeks added ornament to this, which is a very stable and simple architecture. Last of all came arches high in air, and things which do stand, yet look as if they could not. Thus, when the mind at last is taken up with mechanical details, it necessarily forgets all about human passions. When masonry deals with passion and poetry it is great, but when it deals with mechanical problems it becomes mean and dies. The artists of the Flamboyant school delighted in loose, fluttering lines, instead of those of organic form; and this was a sure sign of decay. Moreover, they threw into their work a strange fear and melody, derived from their ancient Scandinavian religion, with its dread of a physical hell. Then, at last, the stonework took the ague, becoming loose, and wanton, and fantastical. The Gothic did not die because it was too rich, for Beethoven is rich, and so are the clouds of heaven; but it fell because its profusion was cold and heartless, and had ceased to be sincere. It died because it had lost sentiment. Good architecture can only be built by a thoughtful and pure people, by a nation with a common pride and a common wealth. In good architectural work the master mason must be pure and intelligent, with plenty of art taste; he must not be paid too much, nor must those below him be paid too little. There must be a common wealth and a common pride to produce good architecture in a nation; that is to say, the taste for beauty must be diffused, and beautiful homes erected for the poor. He did not object to happiness and luxury when everybody was happy and luxurious. At the present time the metropolis is spending seven millions a year upon the London poor, yet pauperism is largely on the increase; the payment shows no generosity: in fact, it is a fine paid by the rich for their neglect of the poor. Instead of lighting candles by daylight, it would be better to light and warm the homes of the poor, and to build up tabernacles that will keep out wind and rain from human bodies. When this is done, luxury may be introduced, and a glorious Flamboyant dragon may be carved over every poor man's door.

THE BOROUGH OF PORTSMOUTH DRAINAGE WORKS.

THE corporation have called in Mr. Hawksley to report upon the efficiency of this extensive scheme of drainage, which has been the cause of so much local dispute and vexation. Mr. Hawksley reports favourably of the general arrangements, including the outfall works, upon which the greatest difference of opinion existed.

Mr. Hawksley states,—"In conclusion I may remark, that whilst I see nothing to condemn, I observe much to commend in the arrangements. In this instance, as in all cases in which the physical difficulties of collecting and discharging the sewage are similar, an amount of attention, intelligence, and watchfulness will be demanded from the officers in charge, altogether unknown under more usual and more favourable conditions."

The scheme was designed in 1863, by Mr. Lewis Angell, C.E. The upper and lower level main sewers and outfall works were constructed by Mr. F. Furniss, under conditions involving great difficulties. The engine-house was erected by Messrs. Light, and the subsidiary sewers are let at a schedule of prices to Messrs. Neave & Fry. Mr. Greatorex is the esident borough engineer.

RAILWAY BRIDGES IN THE METROPOLIS.

SIR,—I have just had a conversation with one of the jurymen who sat on the inquest on the body of the gentleman killed by being thrown from a vehicle, the horse having taken fright from the thundering noise caused by trains rattling through the iron tank (it can't be called a bridge) over Westminster Bridge-road. It came out in evidence that other accidents have occurred from the same cause. The verdict was "accidental death:" thus no one is amenable. Surely, Sir, this danger ought not to be allowed to continue. Railway companies must remedy it. Moreover, it is prognosticated that these dangerous nuisances will ere long crash down with a train. Hard wood rails (the inner sides to be sheet-ironed to prevent the rim from fraying the wood) would veto the din.

The first rails were wood, and in America they are so now. It is astonishing the wear and weight hard wood will stand vertically. This clattering of iron wheels on iron rails in iron tanks is intolerable. R. T.

SIZE OF OPERA-HOUSES.

SIR,—Can any of your correspondents oblige me by giving the relative dimensions of the opera-houses at London (Covent Garden), St. Petersburg, and Moscow?

A. W.

THE GREENING OF STONE.

SIR,—I will be obliged if some of your readers will give any information as to the cause of stone greening over, and how to prevent it. A.

ROAD MAKING AT CAMBERWELL.

SIR,—I have read the correspondence in your paper on roads and road-making. The following has been the process just carried out in this locality. After a long dry summer last year, and when the road had become thoroughly dry and hard, four or five inches of coarse ballast were spread over the entire surface, and rain falling immediately after, this was speedily ground up (at a vast expenditure of horse power) into a quagmire, ankle deep, and remained so for about a week, when more ballast was spread on this, which is now amalgamated with the aforesaid, forming a mixture of mud, horsedung, and crushed ballast, and which only awaits more rain to be *swept* away as what they call road-sand or drift, or to be carried away in blinding clouds of dust by the next wind that blows. SIMPLE.

LANDS AND RAILWAYS CLAUSES CONSOLIDATION ACTS.

DAMAGE TO GOODS.

Knock v. *The Metropolitan Railway Company.*

THE house of the plaintiff in this case received structural damage from the works of the defendants, and damage was also thereby occasioned to his goods. An arbitrator awarded the plaintiff compensation for the injury to the goods, as well as for the other damage. The *Solicitors' Journal* says:—"It was objected, in an action upon the award, that the arbitrator had no power under the Lands and Railways Clauses Act, 1845, to award compensation for damage done to goods. It seems there is no authority on this point, although the universal practice is to give compensation in such cases for damage done to goods. The Court decided that such compensation could be given under the words of the Acts, and they considered the matter too clear to grant a rule to have the point argued. It is curious that there should have been any doubt on this question, but probably it has hitherto been thought so clear that the objection has not before been taken, and so, until now, there has been no reported case upon the subject."

BUILDING CONTRACTS.

FOR some time past the unsatisfactory and uncertain state of the relation between the architect and the contractor, in carrying out work, has been attracting the attention of the architectural profession and of the builders in Liverpool; and some months ago a sub-committee was appointed, at the instance of the Liverpool Architectural Society, to consider the question, and to endeavour to frame such a form of building contract as would be likely to be acceptable to both architects and builders; and which, while leaving no loophole by which the contractor could evade any part of his engagement, might nevertheless protect him from any undue or unjust pressure on the part of the architect. The committee, which consisted, on the side of the architects, of Messrs. T. J. Kilpin, J. Boult, and H. H. Statham; and, on the side of the builders, of Messrs. J. Jones, T. Haigh, and J. Roberts, though meeting in a most amicable spirit, had considerable difficulty in adjusting clauses so as to meet the wishes of both sides; the principal difference arising on the questions as to the appointment of an arbitrator to whom each party might appeal in case of dispute, and as to the extent to which bills of quantities should be incorporated in the contract. Finally, however, after a good deal of discussion, a middle course was adopted on both these points, and the members of the committee are now enabled to recommend to their respective societies, the Liverpool Architectural Society and the Liverpool Builders' Association, the following form of contract for adoption. The advisability of adopting this form of contract, and the means for practically bringing it into operation if approved of, will form the subject for discussion at the meeting of the Liverpool Architectural Society next week:—

"This Contract made the day of 186 , between of the one part, and of the other part, witnesseth, that the parties hereto hereby mutually contract and agree with each other; and the said Contractor, so far as the stipulations and provisions of this contract, and the works, matters, and things herein mentioned or referred to, are to be performed and observed by him, hereby agrees with the said Proprietor; and the said Proprietor, so far as the said stipulations and provisions, matters and things, are to be performed by him, hereby agrees with the said Contractor as follows, namely:—

1. In the construction of these presents, when the Contract will admit of it, the term 'Contractor' shall mean the said ; the term 'Proprietor' shall mean the said ; the term 'Architect' shall mean or other the Architect for the time being employed by the Proprietor to superintend the erection and completion of the works; and the term 'works' shall mean all the works, acts, matters, and things specified and described in the specification, plans, and other drawings, *and detailed bills of quantities supplied*,* hereinafter mentioned, and also such other works, matters, and things as are hereby contracted to be done and performed by the Contractor.

2. The Contractor shall well and substantially, and in the best and most workmanlike manner, with the best materials of their respective kinds, and under the direction of the Architect, make, execute, finish, and complete, and deliver over to the Proprietor, on or before the day of , the several works, acts, matters, and things mentioned or referred to in the specification, plans, and drawings already prepared by the Architect and signed by the parties, *and in the detailed bills of quantities supplied*, with such additions, enlargements, and alterations of, and deviations from, the said works (if any) as the Architect may from time to time, during the progress of the works, direct; but further time shall be allowed, if with reasonable diligence on the part of the contractor, such additions, enlargement, alterations, and deviations should be the cause of delay in the execution and completion of the works.

3. The Contractor shall find all materials, labour, services, tools, scaffolding, implements, utensils, and machinery, and power of every kind, for the full, safe, expeditious, and proper carrying on and completion of the works.

4. The Contractor shall be answerable for, restore and make good all injuries, damages, re-erections, and repairs occasioned or rendered necessary by accidental causes, or flood, storm, tempest, fire, trespasses, or other means, to the works, previously to the completion and delivery of the same, and hold the Proprietor harmless from any damage to person or property arising from the Contractor's operations or neglect. The Contractor shall insure the works from damage by fire in the sum of £ , such damages to be effected in the joint names of the Contractor and the Proprietor. If the Contractor fails to effect such insurance to the satisfaction of the Proprietor, it shall be lawful for (but not obligatory upon) the Proprietor to insure the same, and to retain and deduct the sums paid for such insurance from any money which may be owing to the Contractor.

5. The Proprietor shall pay to the Contractor, for the full and perfect completion of this Contract, the sum of £ . But if the Architect shall direct any addition to, or omission of, or variation from, the works, the value of such addition, omission, or variation, shall be added to or deducted from the said sum of £ as the case may be; *and if there should be found to be any error in the detailed bills of quantities supplied, such error shall be rectified, and an addition be made to the Contractor, or deducted from him, as the case may be, in respect of such error.*

6. The sum payable under the last clause shall be paid by instalments in manner following, namely:—Instalments as the works proceed every month after commencing the works, at the rate of per cent. upon the value of the work done and materials provided and delivered upon the ground, such materials to become the property of the Proprietor, as certified in writing from time to time by the Architect, until the amount reserved by the Proprietor shall equal 10*l.* per cent. on the said sum of £ ; and when the same shall amount to such 10 per cent., the instalments shall be the full value of the work and materials so certified, and, after full completion and delivery of works, whatever balance may be owing after the payments aforesaid, and the ascertaining the value of any extras and deductions, shall be paid by the Proprietor to the Contractor within from such completion as aforesaid. Provided that the first instalment shall not be payable until the expiration of three days after giving the Architect's certificate to the Proprietor, either personally or by leaving the same for him at his place of business or residence; and no instalment of a less amount than £ shall be required to be paid during the progress of the works.

7. The Contractor shall, during the execution of the works, when directed and required by the Architect, remove from the Proprietor's premises all materials and works which shall not, in the opinion of the Architect, be in accordance with the specification, plans, and drawings, either as regards quality of materials or workmanship; or which he shall consider unsound, ill-seasoned, defective, unsuitable, or improper. And the Contractor shall, when so directed and required by the Architect, remove and take down all work which the Architect shall be of opinion is not done according to the specification, plans, and drawings, or otherwise imperfectly executed; and in either case proper and satisfactory materials and work shall be substituted. And if after forty-eight hours' notice the Contractor shall not comply with such direction or requisition, it shall be lawful for the Architect to cause the removal and taking down of the materials and works objected to, and to cause materials and works to be found and executed by some other person or persons, and the costs, charges, and expenses of the same or otherwise incidental thereto, or incurred thereby, shall be deducted from the amount payable to the Contractor under this Contract, or otherwise shall be paid by the Contractor to the Proprietor.

8. If the Contractor shall become bankrupt or compound with or make an assignment for the benefit of his creditors, or shall wilfully suspend or delay the per-

* The words printed in italics may be omitted when the quantities are taken out by a surveyor appointed or agreed to by the contractors.

formance of his part of this Contract for forty-eight hours, after a notice shall be served upon him or left at his last known place of abode by the Architect requiring him to proceed with and perform the same, it shall be lawful for the Proprietor by the Architect to enter upon and take possession of the works, and to employ any other person or persons to carry on and complete the said works, and may authorize him or them to use the plant, tools, materials, and property of the Contractor there being, and the costs and charges incurred in any way in carrying on and completing the said works shall be paid to the Proprietor by the Contractor, or be set off by the Proprietor against any money due or to become payable to the Contractor.

9. The Contractor shall, if the Architect direct, suspend the whole or any part of the works during inclement weather; and if the same shall be suspended by such direction, or shall be necessarily suspended from any cause over which the Contractor has no control, or any local or general strike, then the completion of the works may be delayed for a period equivalent to the time of such suspension.

10. In case the works and things hereby contracted to be done by the Contractor shall not be done and completed at the time hereinbefore mentioned, the Contractor shall pay on demand to the Proprietor, as liquidated and ascertained damages, a sum not exceeding £ for every week which may elapse between the appointed and actual time of completion and delivery hereinbefore mentioned, or the Proprietor may deduct the same from any moneys payable or to become payable to the Contractor, allowance being made for delay, if any occasioned, in the execution and completion of the works by reason of additions, enlargements, alterations, deviations, and other causes, as provided for in Clauses 2 and 9.

11. The Contractor shall provide and keep on the premises where the works are to be carried on a good and efficient foreman; and if the Contractor shall not provide such foreman, the Architect shall be at liberty, after giving forty-eight hours' notice in writing to the Contractor to employ a foreman, and the costs of so doing shall be paid by the Contractor to the Proprietor. The Architect may dismiss any foreman, and also any workman, for incompetence or misconduct.

12. Should any flaws, cracks, settlements, shrinking, or other defects arise or occur during the progress of the works, or within after the delivery thereof, arising from bad materials or workmanship, the payment of moneys due on the giving of any such certificate as aforesaid by the Architect shall not exonerate the Contractor from liability, but the same shall be rectified by him at his own expense.

13. The Contractor shall give all necessary notice to the Road Surveyors or other Surveyor, and to all other person or persons to whom notice is required to be given.

14. The Contractor shall not assign or sublet this contract, or any part thereof, without the consent of the Architect.

15. If in any difference between the parties touching the premises, they or either of them shall be dissatisfied with the decision of the Architect, the subject shall be referred to ; but if he shall refuse to act, or shall die, then to such person as the President for the time being of the Liverpool Architectural and Archæological Society may appoint, it being understood that such reference shall not be opened until the works are completed, without the concurrence of the Architect; and this submission to arbitration, with the award of the Arbitrator, may be made a rule of any of her Majesty's Courts of Record in England. The cost of the arbitration and award shall be in the discretion of the Arbitrator.

As witness the hands of the parties the day and year first before written."

METROPOLITAN BUILDINGS ACT.

LIABILITY OF OWNERS FOR FEES.

MR. G. WOOD, of Devonshire Wharf, Camden Town, was summoned before Mr. Dayman, at the Wandsworth Police Court, for the sum of 10*l.* 10s., district surveyor's fees due from him as the owner of six houses in Frederick-street, Wandsworth-road. The defendant pleaded that at the time the fees came due he was not the owner, being merely the mortgagee; that though he had subsequently fore-closed, he had since parted with the property, and was not now the owner; and that the builder was the proper person to pay the fees. Mr. Dayman decided that any builder, owner, or occupier, is liable under the 51st Sec.; and that the fees being of the nature of a charge on the property, any owner is liable, provided he is the owner at the time the claim is made upon him; and that having subsequently parted with the property, did not affect his liability. He also ruled that the mortgagee is the owner, though he may not have foreclosed.

ARBITRATION CLAUSES IN CONTRACTS.

THE leading builders of London and of the provinces have had under much consideration lately the effect of the Arbitration Clauses in Contracts, and have been in communication with the Institute of British Architects on the subject. As contracts are now drawn, the architect is absolute,—practically he may act with injustice towards the builder, the latter being entirely without remedy. The only plea on which such power can be placed in the hands of any individual is, that he should occupy the position of an umpire or judge without bias on one side or the other, and this is a position which some architects conceive they ought to occupy. But the builders say with justice that an architect is naturally bound up with the interests of his client, who employs and pays him. Moreover, he has often to decide on matters in which his direct personal interests are concerned. The architects say, "We are quite willing to give an arbitration clause as regards the value of extra or omitted works, but on no other point." The builders reply that this arbitration clause is utterly useless, unless there can be also a reference as to the builder's right to a final certificate of completion; for, according to the wording of all contracts, the architect's certificate is made a condition precedent to obtaining payment, and although the amount due to a contractor may be definitely settled, he is unable to enforce payment of the same without the architect's certificate, which may be withheld without any reason being assigned. Such is the law.

Two cases may be cited to show the arbitrary unfairness of the working of this condition. In one case, the builder was directed by the specification to use materials unfit for the purpose. When the building was nearly finished the unfit materials had to be substituted by other materials. The architect in this case refuses his certificate until the builder consents to deduct from his account a sum equal to the whole cost of the substituted materials, and this he does manifestly in order to save himself with his client. In the other case, the builder was bound in a heavy penalty to complete by a certain date; the architect leaves his office for some weeks, during which the builder is brought almost to a standstill for drawings and instructions; the accounts are made up and agreed to, but the architect says, "I will not give you my certificate (the only mode by which you can obtain payment) unless you consent to take off a large sum by way of forfeit for delay." Here, again, the architect is able to make the builder pay for his own indolence, because the contract is so drawn that he is absolute master of the situation. The builders consider it high time that such a state of things should be amended. A. B. C.

YORKSHIRE ARCHITECTURAL SOCIETY.

A GENERAL meeting of the members of this society has been held, in the council-room of the Yorkshire Philosophical Society, at York. The hon. and very rev. the dean in the chair. The attendance was only meagre. The Rev. Geo. Rowe read the report, which was adopted, and which stated that the committee had the pleasure of reporting that the flourishing condition of the society in former years continued, both as to the number of members and the state of the finances. The reappointment of the committee and officers of the society took place; and the Rev. G. Lewthwaite then read a paper "On the Antiquities of the Parish of Adel," about six miles from Leeds. The Rev. Geo. Rowe then, referring to the church at Brompton, Northallerton, said that in digging the foundations for the reconstruction there were found several crosses and cross slabs and other stones. The crosses were of the same age probably as the other stones, having the same interlaced cord as an ornamentation. Of the other stones there were portions of eleven or twelve. These were about 4 ft. 4 in. long, 1 ft. 4 in. high, and 6 in. in thickness. They had stood in the ground on one of the longer sides, and either end had a figure which was most like that of a bear, sometimes with two, sometimes with four paws. It was usually muzzled, but in one instance the paws acted as a muzzle. Out of their mouths proceeded the upper member of a rude characteristic ornamentation, consisting of various forms of fretwork and interlaced bands. In some cases an arch was sunk a short distance into the middle of the lower part of the stone. The Rev. J. R. Lunn then read a paper descriptive of the ecclesiology of the rural deanery of Knaresborough, in the diocese of Ripon.

LIGHT AND AIR.

WHEN DOES RIGHT COMMENCE.

Courtould v. *Legh*.—This was a special case, in the Court of Exchequer, in which the facts were stated by an arbitrator for the opinion of the Court, and raised a question both novel and important with respect to the condition as to the completion and fitness for habitation in which a newly-built house must be before the owner of it can gain any right to light and air as against an adjoining proprietor. The plaintiff's and defendant's premises were adjoining houses in Lewes-crescent, Kemp-town, Brighton. In 1830 the plaintiff's house having been recently built, was, after remaining some time in carcass, completed, so far as the structure was concerned, and had windows formed and casements put in, but it was still unfinished internally, and unfit for habitation. More recently, and within the last twenty years, it was finished and inhabited. More than twenty years after this, defendant added rooms at the back of his house, whereby the access of light and air to the plaintiff's windows was diminished.

Mr. Garth, Q.C. (with whom was the Hon. Mr. Thesiger), for the plaintiff, contended that so soon as the house and windows were completed the plaintiff's right began to run as against the defendant.

Mr. Charles E. Pollock (with whom was Mr. Thrupp), for the defendant, contended that so long as the plaintiff's house remained unfit for habitation, there was no such enjoyment as was requisite to acquire a right under the statute.

The Court gave judgment for the plaintiff, holding that the house, being finished in 1830, all but internal fittings, and the windows being put in, the plaintiff's right dated from that period, and consequently that he had enjoyed it for more than twenty years, and was entitled to maintain an action against the defendant for the disturbance of it.

THE CHARGES FOR QUANTITIES.

SIR,—A paragraph in your paper with respect to the Halifax Board charging for sketches, and your opinion thereon, prompt me to say that the architects of a London job, for which I see twenty-three firms tendered, had the modesty to demand a guinea for every copy of quantities, *not* to be returned, as I positively ascertained; in this case producing very nearly 1 per cent. on the job beforehand. Do you know of any precedent for such practice?

AN INTENDING COMPETITOR.

MONUMENTAL.

The Monument to Alderman Beckford.—It has been resolved by the Court of Common Council to restore the monument to Alderman Beckford, in Guildhall. Mr. Higinbotham, in moving the resolution, alluded to a statement by some clever fellow in one of the daily papers a few days ago, in reference to the motion, that it was very doubtful whether the speech reported to have been made to his Majesty George III. by this great City worthy, on the 23rd of May, 1770, had ever been uttered by him; and he read extracts from the "Annual Register" of that date, and the minutes and journals of the Court of Common Council itself, which, he said, left no doubt whatever that the speech really was made as represented.

The Statue of Queen Anne, in Leeds.—It has now been decided to keep the statue of Queen Anne at the Leeds Town-hall, and workmen have been engaged in placing her Majesty in the niche at the right-hand side of the Great George-street entrance. There is a vacant niche on the opposite side of the entrance.

Robert the Bruce on a Corinthian Column.—A meeting has been held in the small town of Lochmaben, in Scotland, which claims, together with Turnbury, to have been the native place of King Robert the Bruce, and resolutions have been agreed to by acclamation, that a statue of Robert be placed on the top of a Corinthian column at Lochmaben, the figure to be looking towards Bannockburn and Edinburgh, and pointing to Dumfries,—that is, looking in two directions and pointing in a third. One speaker said the Wallace Memorial at Stirling should encourage them to proceed: we should have rather thought it would discourage them. At any rate, anything more ridiculously inappropriate than a Corinthian column with the Mediæval Bruce on the top of it could scarcely be suggested.

Books Received.

Metropolitan Board of Works: Index of the Streets and Places in the Metropolis. WATERLOW & SONS, Printers, London-wall.

THIS very comprehensive index of the streets and places in the metropolis, according to the existing nomenclature, has been compiled by Mr. Newall in the department of the Superintending Architect, to assist the Board and its officers in the naming of new streets, under the 87th section of the Metropolis Local Management Act of 1862. It has been in preparation for several years, according as opportunities permitted. Copies are to be sent to the vestries and district boards, and to the Post Office authorities and county courts, for use and revision, and are to be placed in the hands of the nomenclature clerks and

examined in each locality. By these means it is hoped that the Board will soon be in possession of an amount of information in reference to the existing arbitrary and irregular nomenclature that will render the work of reforming it extremely easy. The present index is simply a proof for revision; we may very shortly expect to have in succeeding issues a standard list. There is great need for such a revision and reform of street nomenclature. The number of streets of the same name throughout the metropolis is extraordinary. There are no less than seventy John-streets, for example, over and above a long list of John-streets North, John-streets South, &c., &c. There are long lists, too, of Cross-streets, Crown-courts, King-streets, and a host of others. The re-naming the whole will be a task of no little difficulty. The Board have already made some little progress, but that is as nothing to what has yet to be done. We may here state that the new street leading from the new meat-market to the top of Holborn-hill has been named Charterhouse-street. The open space of ground at the top of the hill, facing Hatton-garden, will be called Holborn-circus; a new street, called St. Andrew's-street, to connect Holborn-circus and Farringdon-street, will pass at the back of St. Andrew's Church, cross Stonecutter-street, and open into Farringdon-street, near Black Horse-court.

VARIORUM.

The *Popular Science Review* for January, is a generally interesting one. The leading paper is on Flying Machines, by Mr. F. W. Brearey, honorary secretary to the Aëronautical Society of Great Britain. In a paper on the planet Mars, by Mr. Proctor, there are a series of curious and new diagrams and sketches, with a new chart of the planet.——"Report on a Project for the Drainage of Bombay. Also Report on Mr. Sowerby's Memorandum on the Drainage of Bombay." By Hector Tulloch, Captain Royal Engineers. Bombay: printed at the Education Society's Press, Byculla, 1868. Captain Tulloch's project appears to be entirely in accord with the views of the Secretary of State and the recommendations of Mr. Rawlinson. It proposes to utilize the sewage for irrigational purposes at a point distant from the town, and thus in the long run to make the works remunerative. If such utilization is found a failure, the sewage can still be discharged at Colaba or anywhere else at a less cost. The whole island and the city, present and future, would be drained by this project, while Mr. Aitken's leaves, it is said, a great portion untouched. The storm waters would be separated from the sewage, and all the floods on the flats and the town drained. The total cost, including sewage utilization, pumping station, outlets to the sea, and of course the sewers and street drains, sluices, manholes, &c., would be about 75 lakhs of rupees.——North of England Institute of Mining Engineers: On the Haulage of Coal; being the Report of the Committee appointed by the Mining Institute to investigate the Subject." Newcastle-upon-Tyne: A. Reid. 1869. This voluminous report contains a mass of information as to haulage of coal by endless chains, endless ropes, &c., both above ground and below, including details of many experiments, and upwards of fifty illustrative plates.——Cassell's Primary Series: "The Boy's First Reader, for Elementary Schools;" Part I.: "The Girl's First Reader;" Part I.: "An Explanatory Introduction to Geography, for Elementary Schools," by F. Young, F.R.G.S. Cassell, Petter, & Galpin. These are enticing little books for children, well adapted to excite their interest by engravings, which are also useful in illustration of the simple lessons taught.

Miscellanea.

Communication between Passengers, Guards, and Drivers.—Mr. Weir's atmospheric system has been tested on the South-Western Railway. The whole principle of the plan is the transmission of pulsations of air through tubes communicating with air chambers, and giving motion to a simple arrangement by which a bell is struck. A lever fixed to a rod releases a short semaphore or signal arm, which, dropping down at the side of the carriage, at once indicates to the guard the spot *where he is wanted*.

The Science and Art Exhibition for South Staffordshire.—This exhibition, which is to be opened in May next, and closed at about the end of September, will have a building erected for the purpose. Molineaux House, which the committee have taken, will be made available, but more as an annexe than otherwise, the exhibition being that presented in the main building. That structure will take the form of a large central nave, 150 ft. long by 60 ft. wide, roofed over in one span. The framing will be of timber, covered externally with corrugated iron over felt on boards, and internally it will be lined with boarding. A gallery 14 ft. wide will be framed along the north and south sides, and 19 ft. wide at the ends of the building. Two annexes or wings added on each side the main building increase the ground floor area to a total width of 80 ft. The approach to the building will be under a covered way from the garden entrance of Molineaux House. The main building is progressing with rapidity. It was commenced on the 8th inst., and it will be given up for use on the 31st of March. The contractor is Mr. F. N. Clark, of Wolverhampton, and the architect is Mr. George Bidlake, of the same town. Messrs. R. Lowe & Co., nurserymen, are re-arranging the grounds.

General Exhibition of Water-Colour Drawings.—The fifth exhibition of water-colour drawings in the Dudley Gallery, Egyptian Hall, Piccadilly, comprises 721 works. It can scarcely be considered equal to its predecessor, but is nevertheless an interesting collection.

Society of Engineers.—At the meeting of the Society of Engineers, held on the 1st inst., Mr. F. W. Bryant, president, in the chair, a paper was read on "Explosive Compounds for Engineering Purposes," by Mr. Perry F. Nursey. The following candidates were balloted for, and duly elected Associates, viz., Messrs. Charles Cockburn Gibbons, and Alfred Rubery.

Public Mortuaries. — The movement for providing these buildings in the metropolis appears to be progressing. A large number of the north-eastern and north-western parishes have already arranged for their erection in suitable localities, and the eastern districts seem to be following their example with commendable rapidity. At a late meeting of the Poplar Board of Works the plans for the erection of a mortuary for that parish, as approved by the medical officer, were agreed to, and forwarded for the approval of the rector and vestry. A site is being sought for one at Bow. The term "mortuary" is scarcely the right one for these receiving-houses, but seems to be pretty generally adopted.

New Forms of Permanent Magnet.—A discovery has been made by an old contributor to the *Builder*, Mr. F. A. Paget, C.E., which must become a subject of interest among electricians. It is well known that it is impossible to magnetize a plate except in the direction of its greatest length; and that a square one cannot be made to show magnetic action at all. Mr. Paget, however, finds that by cutting slits nearly up to the middle of a steel plate, a square plate in one piece can with such slits be regularly magnetized; and by this means even an oblong square plate can be regularly magnetized and with as many poles as may be required, in a direction transverse to its greatest length. Mr. Paget also suggests that a parallelopipedon or cube may, perhaps, be convertible in this way into a connected series of magnets. It may be said, of course, that it is just separate oblong magnets that are thus made; but they are not separate; and the influence of this Siamese twin sort of connexion is just one of those curious points which require investigation. May not the oblong connexion be in itself a diamagnet? and if so the mutual reactions of the diamagnet and the magnets, may evolve something new in regard to magnetic and diamagnetic laws.

Maidstone Cottage Improvement Company (Limited).—The annual meeting of this useful society has just been held. It was reported that the shares taken up to the 31st of December last amounted to 4,200*l.* The net income for the year amounted to 298*l.* 2s. 7d., out of which a dividend was declared at the rate of 5 per cent., the balance (65*l.* 16s. 5d.) being added to the reserve fund, which now amounts to 250*l.* 0s. 5d. Since the last report eight cottages have been purchased, making now 55 in possession of the company. Many cottages in the town still urgently require improvement.

The Improvement of the Cam.—The works were commenced on New Year's day. The contractor for the first part of the work—dredging and restoring the river between Jesus Sluice Locks and Baitsbite to its original depth and width—has commenced operations with the powerful dredger of the South Level Commissioners at a point nearly opposite Logan's boat-house. When the new dredger, just built for the Conservators of the Cam, has done its work of dredging the river between Queen's College and Jesus Sluice Lock, it will probably be also at the disposal of the contractor. The other measures proposed by the committee, under the advice of Mr. J. Hawkshaw, are—widening the passage through the railway bridge, and reducing the sharpness of some of the most prominent corners. The rough estimate for carrying out all these improvements was 6,000*l.*, of which upwards of 5,000*l.* have been already subscribed.

Masonic Archæological Institute.—On the 29th ult. the first meeting of this institution, just established, was held at the Freemasons' Hall, Mr. James Glaisher in the chair. Several donations to the library and museum were reported. The inaugural address was delivered by Mr. Hyde Clarke, treasurer, pointing out, as subjects for investigation, the history of Freemasonry in the last century and middle ages; its relations to secret societies and guilds and associations of working men; the possible influence of gnosticism and the ancient mysteries on its symbolism; and its place in the study of the philosophy of the human mind. A vote of thanks was moved by Mr. Glaisher, seconded by Mr. C. H. Gregory. The next paper was announced to be on the ritual used by Frederick the Great when Crown Prince, brought over to this country recently by his Royal Highness the Crown Prince of Prussia.

Buildings in Birmingham in 1868.—The Borough Surveyor has made his usual return of the number and class of buildings erected in Birmingham during the past year, in accordance with plans registered at the surveyor's office. In the total the number is higher than for the four preceding years, as will be seen from the subjoined comparison:—

Year.	Buildings erected.
1861	952
1862	1,350
1863	1,694
1864	1,419
1865	1,056
1866	1,411
1867	1,408
1868	1,548

House building is considerably on the increase within the borough, as compared with the last four years, and the number of houses built in 1868 is much higher than the result given by a long average.

Preparing for Earthquakes.—Some time ago we pointed out the desirability of building with reference to the possible occurrence of earthquakes. The citizens of San Francisco have formed a committee to inquire into the means of preventing or lessening the destruction of property by such disasters. The bricks used in building are reported to be very defective, and it is proposed to adopt a method of bracing buildings with iron rods.

The Chicago River Tunnel.—The tunnel under the Chicago river, known as the Washington-street tunnel, connecting the south and west divisions of the city by a roadway, has just been completed, and was opened to the public on New Year's day. The contract price was 328,500 dollars. The length of the work is about 1,605 ft.; of the retaining walls of the open approach, on the west side, about 320 ft.; and 275 ft. on the east side. The length of the main archway, or covered way, is 932 ft. There are three archways leading through the tunnel; one is for foot passengers, and two are for teams and horses.

Reclamation of Land.—Sir: I am very glad that in mentioning Mr. Wheeler's "History of the Fens," you called attention to the waste land that might be brought into cultivation on our coasts, as it seems to me that no more desirable channel could possibly be found for the surplus capital of the country than in bringing these lands into cultivation. I am aware that you have on many former occasions brought this matter forward, but public attention cannot be too often called to it until something more is done, and it is just one of those measures for the public good that the *Builder* especially delights in advocating.—H.

The Knightsbridge Barracks.—The desirability of removing these barracks, as often urged by us, is further strengthened by a circumstance recently referred to by the *Lancet*. Several of the officers have been driven out of their apartments by an unwholesome smell, as of decomposing animal matter, which has been felt ever since a chimney took fire in one of them. The usual futile endeavour to obtain an authoritative investigation into the cause has been made; but no such investigation has yet been allowed, and the cause is still undiscovered. It has been suggested that the fire may have smoked or burned a colony of rats to death, and that the nuisance may arise from their decomposing bodies.

College Improvements at Cambridge.—Alluding to the late attempt to Gothicise the Hall of St. Catherine's College, as a first step towards the renovation of the whole of the college in the same style, the *Guardian* says:—Most of our readers are familiar with the plain, respectable, but perfectly uninteresting red-brick buildings of this college. Any alteration, they may be inclined to think, must be for the better. This is hardly the case at present. Perhaps when the work is carried further, the effect may be less incongruous. The new Gonville Court at Caius College is rapidly rising, and has now reached the second story. It will be a picturesque building in the Renaissance style, recalling the Château at Blois. The architect is Mr. Waterhouse, to whom Cambridge is also indebted for the "Union"—the club, not the workhouse. Trinity is beginning to reface its chapel with stone, and, therefore, we may conclude, is not intending to enter into competition with St. John's, whose new chapel—Mr. Scott's design—is approaching completion. The carved wooden ceiling is being decorated with polychrome; it will exhibit in its eighteen compartments representative men of the eighteen Christian centuries; our Lord in majesty fills the nineteenth compartment over the altar. The designs and execution are due to Messrs. Clayton & Bell, who are also employed on the windows.

The Noxious Vapours in Galvanizing Works.—The Wolverhampton Corrugated Iron Company have adopted a plan of consuming the bath vapour in galvanizing iron, for which they have secured provisional protection, and with which Mr. R. Baker, factories inspector, it is said, expressed his decided satisfaction when he lately saw it in operation. The top of the bath in which the process goes on is surrounded by an open flue, which forms a projecting lip, and from this run one or more pipes, which communicate by a powerful fan worked by a steam-engine. From the fan a large flue extends to a furnace, which in this case is used for annealing the sheets or articles galvanized. The fan, by exhausting the air from the pipes which extend to it from the bath, causes a strong downward current of air to sweep over the surface of the metal, which drives the vapour into the flue, down the pipes, and from the fan to the furnace, where it is entirely consumed.

The Longley Memorial Church at Oxford.—It is proposed to erect a church at Oxford to the memory of the late Archbishop of Canterbury. The site of the building will be in the new ecclesiastical district of Cowley St. John. Cowley was the first scene of Archbishop Longley's pastoral labours. The village church in which he used to labour has been recently enlarged and restored. It is proposed to erect the new church for 1,000 persons within a few paces of Magdalen Bridge, the anticipated cost being from 15,000*l.* to 20,000*l.* The new Archbishop of Canterbury and the bishop of the diocese have promised their support, and upwards of 2,000*l.* have been already promised or subscribed.

Destruction of a Picture Gallery by Fire.—A destructive fire is reported from Exeter. The picture-gallery of Mr. Hodge, near the Guildhall, was found to be on fire, through, it is supposed, an explosion of gas. In a short time about a hundred pictures were destroyed, including one by Rubens, for which 900*l.* had been offered.

"Masonic Buildings."—In reply to "H.," One correspondent, "I. B. S." advises him to study a Lodge in Weymouth, built about the beginning of the present century. Two other correspondents offer to advise personally, but to this we cannot be a party.

The Maidstone Sewage Question.—The local Board have decided upon borrowing 9,000*l.* for the purpose of proceeding with the drainage of the town, leaving the question of the ultimate disposal of the sewage for future consideration. The scheme originally proposed by the Board was of a much larger and more expensive character: the estimated outlay, as submitted by the authors of the plan, fell little short of 25,000*l.* The Board now throw aside altogether—at least, for the present—the most difficult portion of the subject, namely, the ultimate disposal of the sewage, and confine their proposal to the completion of the existing system of drainage in the town.

The Proposal to Supply London with Water from the Severn.—At the twelfth annual meeting of the Canal Association, held at Birmingham last month, Mr. E. Leader Williams, speaking of the river Severn, and particularly in connexion with Mr. Bateman's project for supplying London with that which he designates "the surplus water of the Severn," to the extent of 200,000,000 gallons per day, observed that nothing was known of any surplus water, inasmuch as the maintenance of the estuary of the river is dependent upon the velocity and volume of the winter floods, without which the estuary and the whole of the lower reaches of the river would become choked with mud and silt brought up by the far too powerful spring tides. The tendency of these tides to choke up the lower reaches of the Severn had, he said, been specially demonstrated during the drought of the past summer, as the deep reaches and pools near Gloucester became so filled with deposit as to prevent navigation, excepting upon the top of spring tides.

Birmingham Society of Artisans.—The annual dinner of the Birmingham Artisans' Society was held on Monday evening, at the Acorn Hotel, Temple-street. Mr. George Dixon, M.P., occupied the chair, and Mr. J. A. Langford the vice-chair. The Chairman, in proposing "The Birmingham Artisans' Society," said that during the past year three papers on different subjects had been read by members of the society, and a memorial had been sent to the Society of Arts, advocating the claims of such towns as Birmingham to Government contributions for local museums. When Mr. Samuelson obtained a committee of the House of Commons to investigate the large question of scientific instruction, one of the members of the Birmingham Artisans' Society was sent up to give evidence,—the only representative of the working men from the whole country which appeared before that committee. The Chairman then reviewed some of the leading questions of the day, in which he desired to see such a society become interested.

The Count de Beerski, Painter. — The American papers record the death, at Rochester, New York, of Count de Beerski, a Russian nobleman, and an artist of considerable repute. He inherited a valuable estate near Moscow, together with 250 serfs, all of whom he emancipated. When Nicholas ascended the throne, the count, in consequence of his liberal views, was obliged to leave his native country and all his possessions. Accustomed as he had been to wealth and luxury, he now found himself obliged to do something for subsistence. He was well educated, and possessed a taste for drawing. He resolved to paint miniatures; and in Hamburg, Paris, and London attracted considerable notice as an artist. Some of his paintings were exhibited in Hyde Park in 1851, and won first-class honours. Count de Beerski was subsequently employed, we believe, to paint portraits of her Majesty and the Royal Family. He emigrated to America in 1859, and was much esteemed by all who knew him.

A New Bath-heating Stove.—Mr. Richard Head has invented and patented a stove so constructed as to fill the usual opening of a fireplace, and act as an ordinary stove, while it is surmounted by a boiler sufficiently large to supply a bath. The boiler has tapering flues running up through it, and it is partly surrounded by hot-air spaces so that the heating of the water is said to be effected in a much shorter time than by other bath-heating stoves. The bath is filled through a pipe, and may be placed anywhere either on the same floor, or a floor below. The filling of the boiler is also effected by a pipe. The arrangements are said to prevent risk of explosion, and avoid filling the room with steam.

Deptford Paving Tenders.—At a recent meeting of the Greenwich Board of Works, the road surveyor presented a plan and estimate with regard to the paving, &c., of Manor-road, Upper Lewisham-road, Deptford. The report having been adopted, Mr. Halsey moved that tenders be advertised for in respect of Manor-road. Mr. Gillespie seconded, and (it being understood that the advertisements would be sent to the local papers as well as the *Builder*) said he considered the former a useless expenditure, for every one likely to send in a tender would read the columns of the *Builder*. He did not wish to disparage the local papers, but believed as a matter of economy it would be superfluous to send to them. Mr. Bartlett and others were of a different opinion, and it was agreed that the advertisements be sent to the *Builder* and the local papers.

Death of the late Borough Surveyor of South Shields.—Mr. T. M. Clemence, late borough surveyor of South Shields, is dead. The deceased gentleman had been connected officially with the borough some eight or nine years, and by his gentlemanly and scholarly bearing, it is said, won the friendship and respect of all who knew him. He was about forty-two years of age.

Mr. Sedding, of Penzance, architect, read a paper lately before the Exeter Diocesan Architectural Society, upon the interesting churches of St. Buryan, St. Leven, and St. Sennen.

TENDERS.

For alterations to 280, Westminster Bridge-road, for Mr. Page. Mr. W. E. Williams, architect.

Nixon & Son	£693	0	0
Ennor	472	0	0
Auley	450	0	0
Marr (accepted)	434	0	0
Fittings, Extension of Front, &c.			
Marr	163	18	0

For alterations and additions to Grapes and Can, Goswell-road, for Mr. May. Mr. W. E. Williams, architect.

Tracey & Co.	£527	0	0
Marr	477	0	0
Auley	425	0	0
Ennor (accepted)	419	0	0

For the erection of Lancaster Buildings, Tithebarn-street, Liverpool, for the Liverpool Financial Association. Messrs. Picton, Chambers, & Bradley, architects. Quantities supplied.

Campbell	£13,042	0	0
Mullin	11,815	0	0
Hughes	11,700	0	0
Haigh & Co.	11,624	0	0
Jones & Son	11,534	0	0
Holme & Nicol	11,492	0	0
Rome	11,300	0	0
Nicholson & Ayre	11,270	0	0
Callie	11,170	0	0
Westmoreland	11,120	0	0
Urmson (accepted)	10,938	0	0

For alterations and additions to stationery warerooms, No. 42, Rathbone-place, for Messrs. Jeremiah Smith & Co. Mr. John Tarring, architect.

Barratt & Son	£807	17	0
Simpson	777	7	7
Shurmur	744	0	0
Saunders	685	0	0
Richards	649	0	0
Shepherd	630	0	0
Robinson	594	0	0

For alteration, &c., at 26, Jewry-street, Aldgate, for Trustees of Sir John Cox's School. Mr. R. Wales, architect.

Ashby & Horner	£1,998	0	0
Ashby & Sons	1,927	0	0
Ryder	1,906	0	0
Henshaw	1,889	0	0
Conder	1,837	0	0
King & Sons	1,835	0	0

For alterations and repairs at five houses in St. George's-road, Southwark, for Mr. E. W. Rolls. Mr. R. J. Dickins, surveyor.

Cooper & Cullum	£1,058	0	0
Lingfield	945	0	0
Falkner	937	0	0
Yates	908	0	0
Kent	819	0	0
Eustace (accepted	818	0	0

For tramps' wards, lodge, &c., Kingston Union. Messrs. Rushforth & Luck, architects. Quantities supplied by Mr. Northeroft.

Bennett	£5,050	0	0
Collings	4,658	18	0
Simpson	4,420	0	0
Wicks, Bangs, & Co.	4,400	0	0
Till	4,300	0	0
Towel	4,222	0	0
Gammon	4,139	0	0
Kilby	4,197	0	0
Winship	3,955	0	0
Manley & Rogers (accepted)	3,984	0	0
Foale	3,737	0	0
Smart	3,564	11	0